

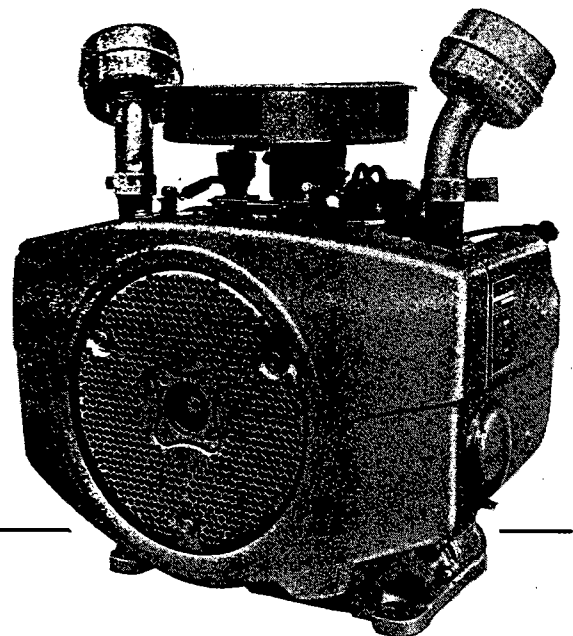
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McGRAW-EDISON

Onan

Parts Manual

NHA-NHAV
NHB-NHBV
Engine

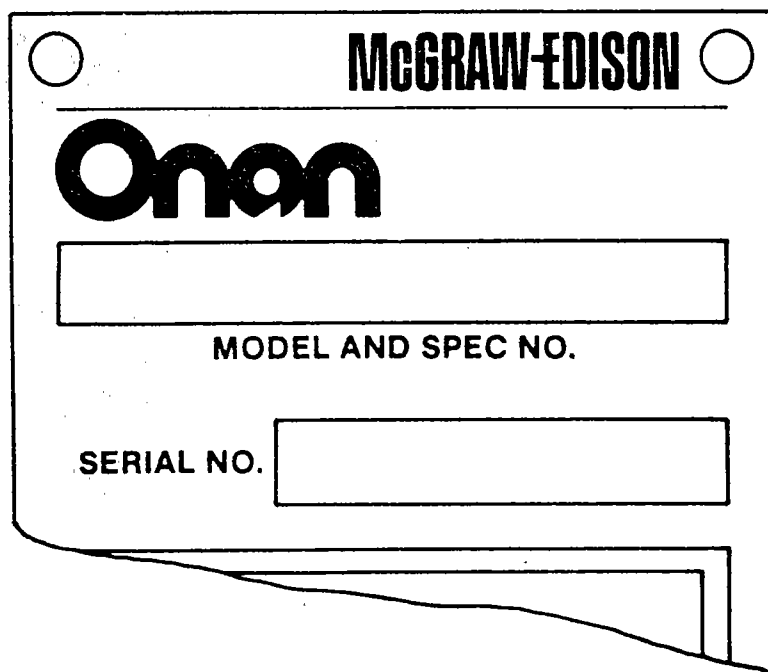


940-0403
9-84 (SPEC A-D)
Replaces
9-80 (Spec A-D)
Printed in U.S.A.

GENERAL INFORMATION

For parts or service, contact the dealer from whom you purchased this equipment or refer to your Nearest Authorized Onan Parts and Service Center.

To avoid errors or delay in filling your parts order, always give the MODEL, SPEC NO. and SERIAL NO. from the Onan nameplate.



A rectangular form with a black border. At the top center, the text "McGRAW-EDISON" is printed in a bold, sans-serif font. Below this, the "Onan" logo is displayed in a large, stylized, bold font. Underneath the logo is a wide, empty rectangular box. Below this box, the text "MODEL AND SPEC NO." is printed in a bold, sans-serif font. Further down is another empty rectangular box. To the left of this box, the text "SERIAL NO." is printed in a bold, sans-serif font. The bottom right corner of the form is folded over, revealing a second identical form underneath. Two small circles are located at the top left and top right corners of the form.

M-1149

For handy reference, insert "YOUR" nameplate information in the spaces above.

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INTRODUCTION

This catalog applies to the Industrial NHA and NHB Engines listed below, and factory installed options. Parts are arranged in groups of related items. Each illustrated part is identified by a reference number corresponding to the same reference number in the parts list for that group. Parts illustrations are typical. Using the *MODEL* and *SPEC NO.* from the nameplate, select the *Parts Key No.* (1, 2, etc., in the last column) that applies to your engine. This *Parts Key No.* represents parts that differ between models. Unless otherwise mentioned in the description, parts are interchangeable between models. Right and left sides are determined by *facing* the blower end (front) of the engine.

ENGINE DATA TABLE

MODEL AND SPEC NO. £	FEATURES	PARTS KEY NO.
NHA-MS/*	Pressure Flow Cooling	1
NHAV-MS/*	Vacu-Flo Cooling	2
NHB-MS/*	Pressure Flow Cooling	3
NHBV-MS/*	Vacu-Flo Cooling	4

* - The Specification Number 1 identifies a standard model; specification numbers other than 1 indicates customer ordered options.

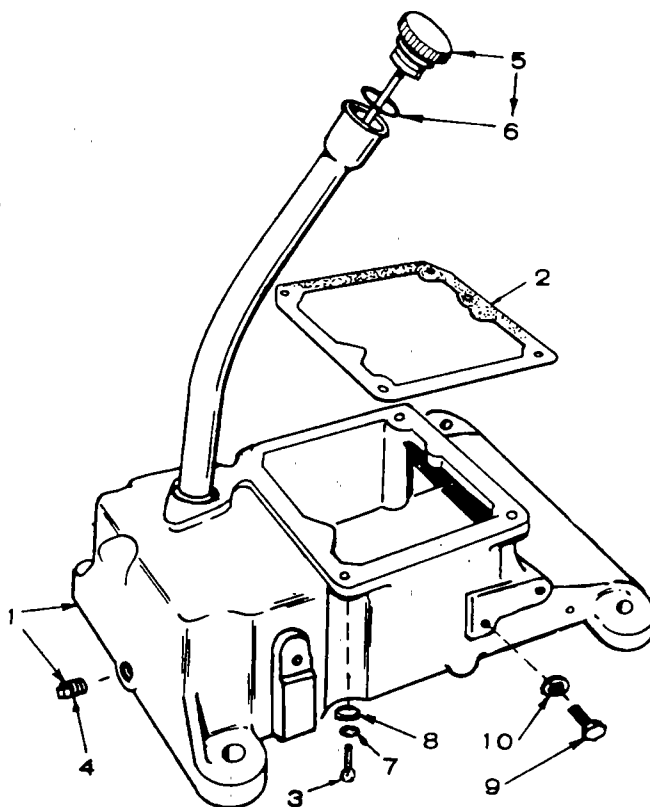
£ - The Specification Letter advances (A to B, B to C, etc.) with each major manufacturing change.

STANDARD ENGINE PARTS SECTION

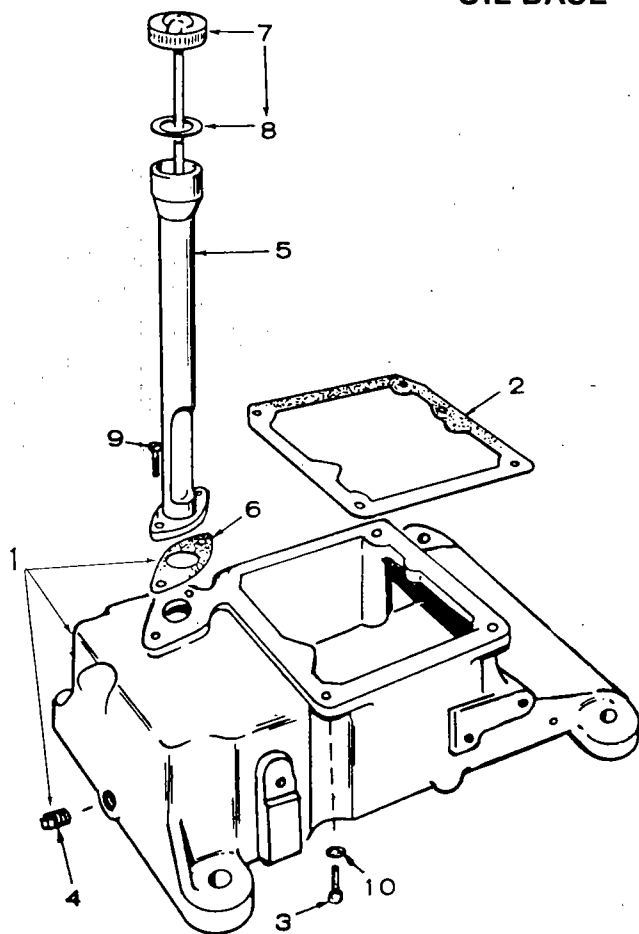
This section contains the engine parts used on standard engines listed in the Engine Data table.

OIL BASE - BEGIN SPEC C

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	102-1157	1	Base, Oil
2	102-1200	1	Gasket, Oil Base
3	800-0051	4	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
4	505-0056	1	Plug, Oil Drain
5	123-1298	1	Cap and Indicator, Oil Fill
6	509-0142	1	Gasket, Oil Fill Cap
7	850-0050	4	Washer, Lock - Spring (3/8")
8	526-0026	4	Washer, Flat (13/16" ID x 3/4" OD x 1/16" Thk)
9	800-0004	2	Screw, Cap - Hex Head (1/4-20 x 5/8")
10	526-0063	2	Washer, Flat - Copper



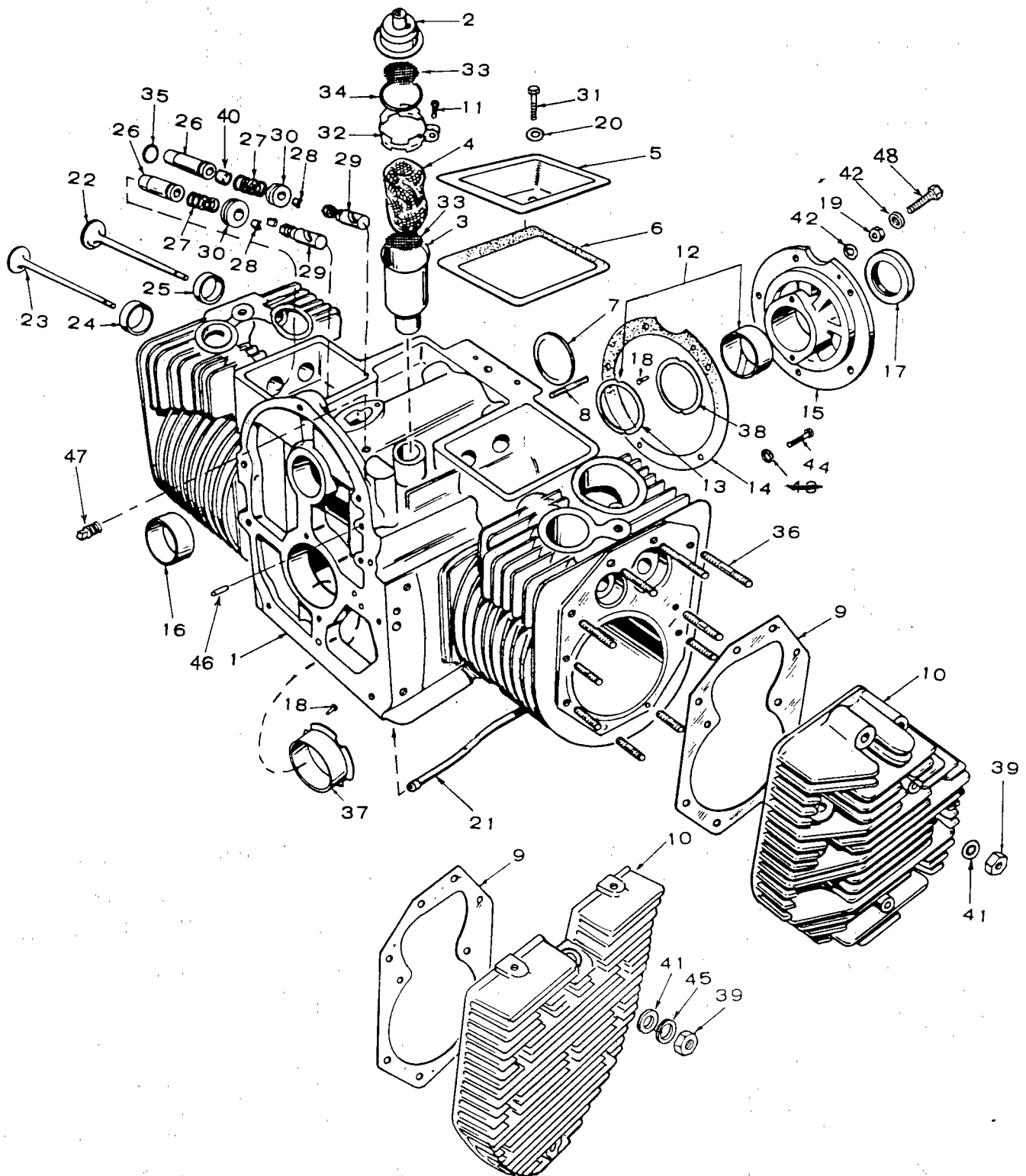
OIL BASE - SPEC A AND B



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	102-1048	1	Base, Oil (Includes Parts Marked*)
2	102-0646	1	Gasket, Base
3	800-0051	4	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
4	505-0056	3	*Plug, Drain
5	TUBE, OIL FILL		
	123-1214	1	Key 1,3; 2 & 4 (Spec A Only)
	123-1270	1	Key 2 & 4 (Spec B Only)
6	141-0078	1	*Gasket, Fill Tube
7	CAP & INDICATOR, OIL FILL		
	123-1244	1	Key 1,3; 2 & 4 (Spec A Only)
	123-1252	1	Key 2 & 4 (Spec B Only)
8	123-0191	1	Gasket, Oil Fill Cap
9	821-0010	2	Screw, Self-Locking - Hex Washer Head (1/4-20 x 1/2")
10	850-0050	4	Washer, Lock - Spring (3/8")

* - Parts Included in 102-1048 Oil Base.

CYLINDER BLOCK



A6

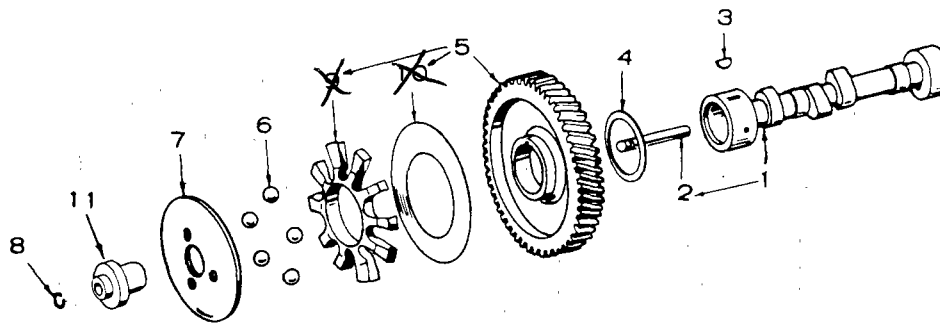
CYLINDER BLOCK

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	BLOCK ASSEMBLY, CYLINDER (Includes Parts Marked *)			26	GUIDE, VALVE		
			Spec A thru C (w/Mechanical Fuel Pump)				Engines without Valve Seals
	110-1983	1	Engines w/Standard Brg. Plate	110-3167	2		Intake
	110-2276	1	Engines w/SAE A Brg. Plate	110-3167	2		Exhaust
	110-2275	1	Engines w/SAE B Brg. Plate				Engines with Valve Seals
			Spec A thru D (w/Vacuum Pulse or Electric Fuel Pump)	110-3168	2		Intake
	110-2686	1	Engines w/Standard Brg. Plate	110-3167	2		Exhaust
	110-2874	1	Engines w/SAE A Brg. Plate	27	110-0539	4	Spring, Valve
	110-3028	1	Engines w/SAE B Brg. Plate	28	110-0639	8	Lock, Valve Spring
2	123-0954	1	Cap and Valve Breather	29	TAPPET, VALVE		
3	123-0952	1	*Tube, Breather		115-0006	4	Standard
4	123-0865	1	Baffle, Breather Tube		115-0006-05	4	.005" Oversize
5	110-1624	2	Cover, Valve Compartment	30	110-0904	4	Rotator, Valve
6	110-1720	2	Gasket, Valve Cover	31	800-0011	2	Screw, Cap - Hex Head (1/4-20 x 2")
7	517-0048	1	*Plug, Expansion	32	123-0951	1	Clamp, Loop - Breather Tube Cap
8	520-0736	5	*Stud, Bearing Plate Mounting	33	123-0958	2	Screen, Breather Tube
9	GASKET, CYLINDER HEAD			34	509-0117	1	Seal, O-Ring - Breather Tube
	110-1731	2	Spec A thru C	35	110-0068	2	*Gasket, Valve Guide (Intake)
	110-2987	2	Begin Spec D	36	*STUD, CYLINDER HEAD MOUNTING		
10	HEAD, CYLINDER						Keys 1, 2, 3
			Key 1 and 2		520-0919	8	3/8 x 2-19/32" (Bottom 4 Holes)
	110-1980	1	Right Side		520-0876	4	3/8 x 2-3/4" (Top 2 Holes)
	110-1981	1	Left Side		520-0918	8	3/8 x 3" (Middle 4 Holes)
			Key 3 and 4 - Spec A thru C				Key 4
	110-1912	1	Right Side		520-0876	4	3/8 x 2-3/4" (Top 2 Holes)
	110-1913	1	Left Side		520-0717	8	3/8 x 1-7/8" (Bottom 4 Holes)
	110-2713	2	Key 3 and 4 - Begin Spec D		520-0773	8	3/8 x 2-9/16" (Middle 4 Holes)
11	809-0035	1	Screw, Tapping - Round Head (#8 x 3/4")	37	BEARING, SLEEVE - FLANGED, CRANKSHAFT		
12	BEARING, CRANKSHAFT REAR				101-0432	1	*Standard
	101-0450	1	*Standard		101-0432-02	1	.002" Undersize
	101-0450-02	1	.002" Undersize		101-0432-10	1	.010" Undersize
	101-0450-10	1	.010" Undersize		101-0432-20	1	.020" Undersize
	101-0450-20	1	.020" Undersize		101-0432-30	1	.030" Undersize
	101-0450-30	1	.030" Undersize	38	104-0776	As Req.	*Shim, Crankshaft Thrust (.005")
13	104-0575	2	*Washer, Thrust - Crankshaft Bearing	39	104-0091	20	Nut, Hex (3/8-24)
14	101-0415	1	*Gasket, Bearing Plate	40	509-0168	2	Seal, Oil (Intake Valve)
15	PLATE, BEARING - REAR			41	526-0250	20	Washer, Flat - Heat Treated (.407" ID x 1" OD x 1/8" Thk)
	101-0439	1	Standard	42	WASHER		
	101-0430-01	1	SAE B		526-0251	5	*Flat - Use w/Studs (.406 ID x .688 OD x .1345 Thk)
	101-0437	1	SAE A		850-0050	5	Lock - Use w/Bolts (3/8")
16	101-0405	2	*Bearing, Camshaft	43	526-0006	2	*Washer, Flat - Copper (.25/64" ID x 9/16" OD x 1/16" Thk)
17	509-0041	1	Seal, Oil - Crankshaft (1/2" W)	44	800-0046	2	*Screw, Cap - Hex Head (3/8-16 x 1/2")
18	516-0072	4	*Pin, Bearing Stop	45	851-0029	24	Washer, Compression (3/8" ID x 1-1/16" OD) - Begin Spec D
19	104-0091	5	*Nut, Hex (3/8-24)	46	516-0141	2	*Pin, Gearcase Alignment
20	526-0063	2	Washer, Flat - Copper (17/64" ID x 7/16" OD x 1/32" Thk)	47	505-0057	1	Plug, Square Hd. Pulse Line Hole (1/8")
21	120-0680	1	*Tube, Oil - Crankcase	48	800-0051	5	Screw, HHC - Brg. Plate Mounting (3/8-16 x 1-1/4")
22	110-1974	2	Valve, Intake				
23	110-1719	2	Valve, Exhaust				
24	INSERT, VALVE SEAT - EXHAUST						
	110-1716	2	*Standard				
	110-1716-02	2	.002" Oversize				
	110-1716-05	2	.005" Oversize				
	110-1716-10	2	.010" Oversize				
	110-1716-25	2	.025" Oversize				
25	INSERT, VALVE SEAT - INTAKE						
	110-1933	2	*Standard				
	110-1933-02	2	.002" Oversize				
	110-1933-05	2	.005" Oversize				
	110-1933-10	2	.010" Oversize				
	110-1933-25	2	.025" Oversize				

* - Parts Included in Cylinder Block Assembly.

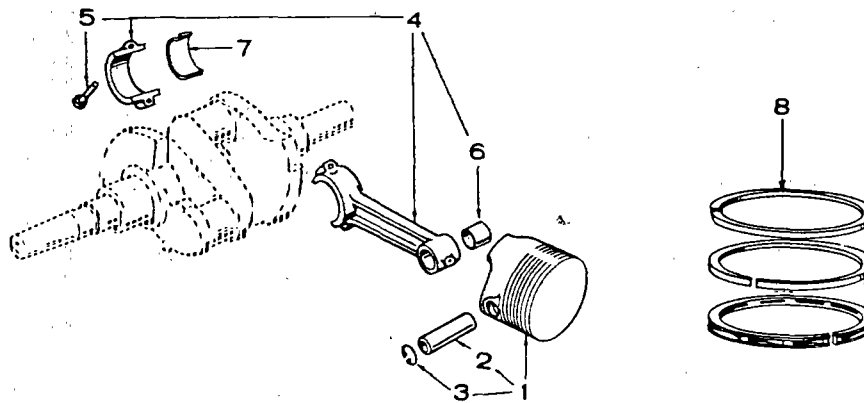
44 803-0071 2 SCREW, Set

CAMSHAFT



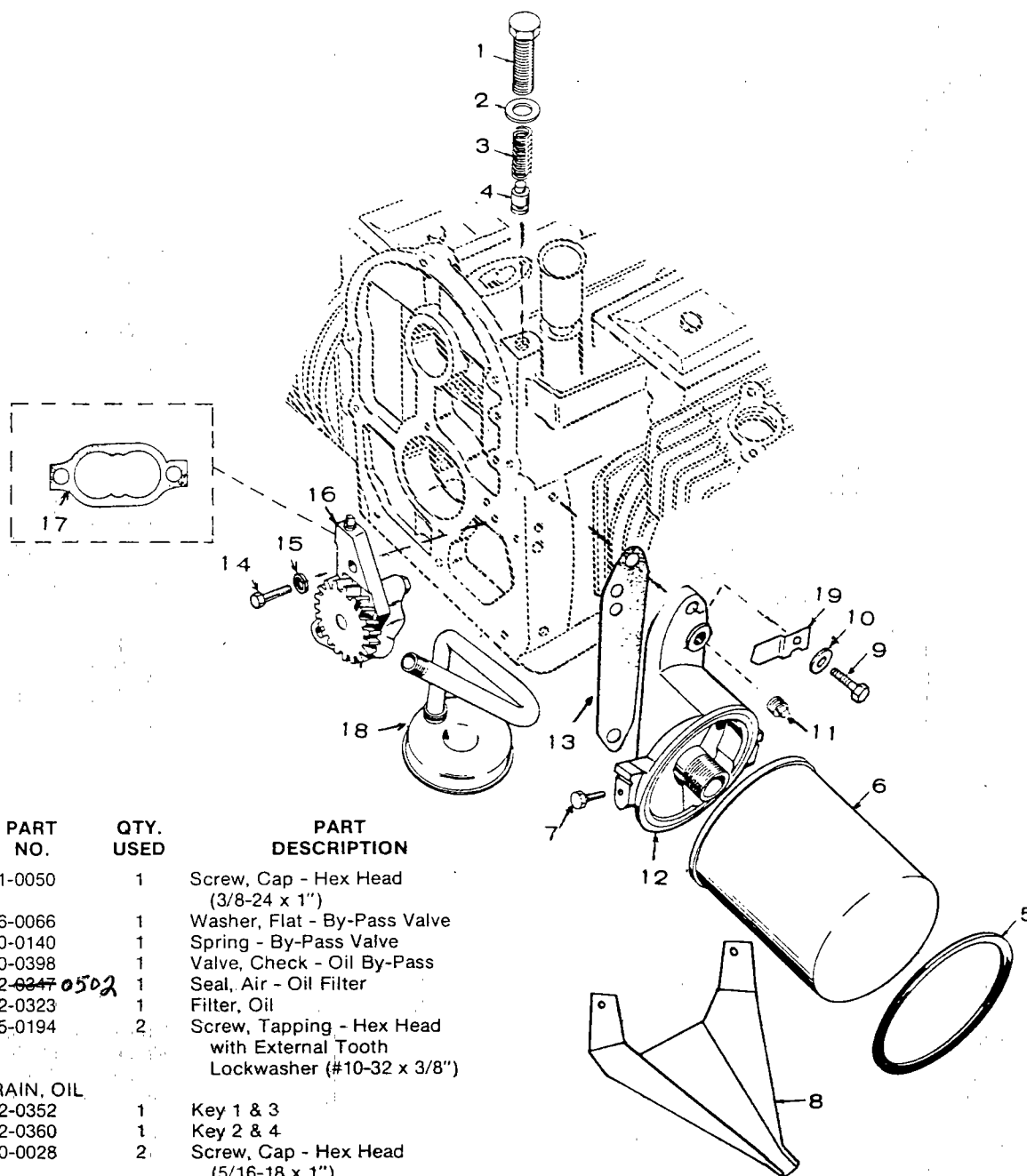
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	CAMSHAFT (Includes Center Pin)			6	BALL FLY - GOVERNOR		
	105-0396	1	Key 1 & 2		510-0015	5	5 Ball Governor
	105-0382	1	Key 3 & 4		510-0015	10	10 Ball Governor
2	150-0075	1	Pin, Camshaft	7	150-1520	1	Cup, Governor
3	515-0001	1	Key - Camshaft Gear	8	150-0078	1	Ring, Retaining
4	105-0541	1	Washer, Thrust	9	150-1267	1	Spacer, Fly Ball
5	105-0332	1	Gear Assembly, Camshaft (Includes Spacer and Plate)	10	150-0077	1	Plate, Fly Ball
				11	150-1519	1	Hub, Governor Cup

PISTON AND ROD



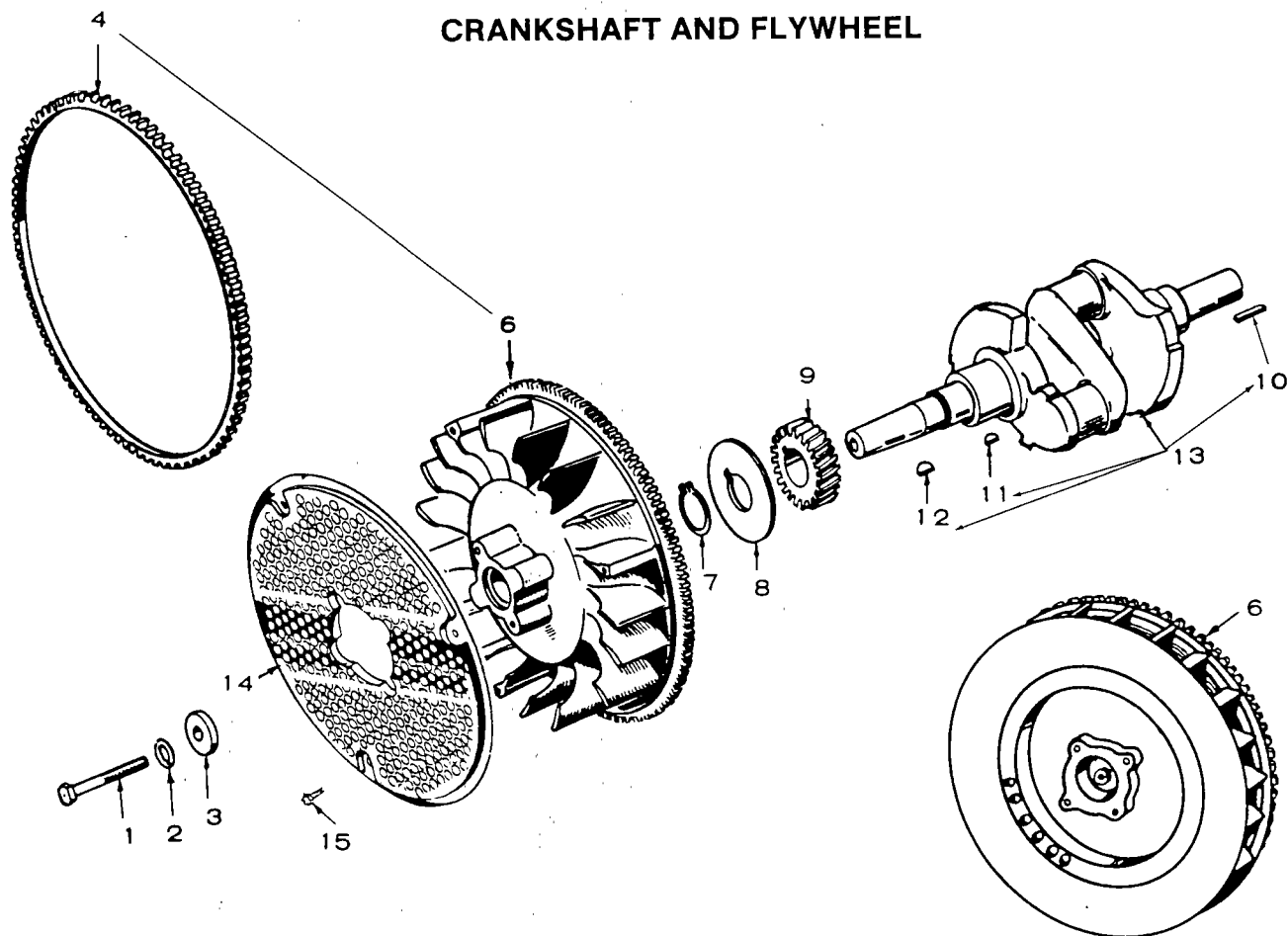
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	PISTON AND PIN (Includes Pin & Retaining Rings) Spec A Through C			114-0188-10	4		.010" Undersize
	112-0180	2	Standard	114-0188-20	4		.020" Undersize
	112-0180-05	2	.005" Oversize	114-0188-30	4		.030" Undersize
	112-0180-10	2	.010" Oversize	8	RING SET, PISTON		
	112-0180-20	2	.020" Oversize				Key 1 and 2
	112-0180-30	2	.030" Oversize		113-0166	2	Standard
	112-0180-40	2	.040" Oversize		113-0166-05	2	.005" Oversize
			Begin Spec D		113-0166-10	2	.010" Oversize
	112-0228	2	Standard		113-0166-20	2	.020" Oversize
	112-0228-05	2	.005" Oversize		113-0166-30	2	.030" Oversize
	112-0228-10	2	.010" Oversize		113-0166-40	2	.040" Oversize
	112-0228-20	2	.020" Oversize				Key 3 and 4 - Spec A Thru C
	112-0228-30	2	.030" Oversize		113-0165	2	Standard
	112-0228-40	2	.040" Oversize		113-0165-05	2	.005" Oversize
2	112-0112	2	Pin, Piston		113-0165-10	2	.010" Oversize
3	518-0294	4	Ring, Retaining - Piston Pin		113-0165-20	2	.020" Oversize
4	114-0203	2	Rod Assembly, Connecting (Less Bearing)		113-0165-30	2	.030" Oversize
5	805-0010	4	Bolt, Rod Cap		113-0165-40	2	.040" Oversize
6	114-0036	2	Bushing, Piston Pin				Key 3 and 4 - Begin Spec D
7	BEARING, HALF - CONNECTING ROD				113-0203	2	Standard
	114-0188	4	Standard		113-0203-05	2	.005" Oversize
	114-0188-02	2	.002" Undersize		113-0203-10	2	.010" Oversize
					113-0203-20	2	.020" Oversize
					113-0203-30	2	.030" Oversize
					113-0203-40	2	.040" Oversize

OIL SYSTEM



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	801-0050	1	Screw, Cap - Hex Head (3/8-24 x 1")
2	526-0066	1	Washer, Flat - By-Pass Valve
3	120-0140	1	Spring - By-Pass Valve
4	120-0398	1	Valve, Check - Oil By-Pass
5	122-0347 0502	1	Seal, Air - Oil Filter
6	122-0323	1	Filter, Oil
7	815-0194	2	Screw, Tapping - Hex Head with External Tooth Lockwasher (#10-32 x 3/8")
8	DRAIN, OIL		
	122-0352	1	Key 1 & 3
	122-0360	1	Key 2 & 4
9	800-0028	2	Screw, Cap - Hex Head (5/16-18 x 1")
10	526-0065	2	Washer, Flat - Copper (21/64" ID x 9/16" OD x 1/16" Thk)
11	505-0057	1	Plug, Pipe - 1/8 NPT
12	122-0320	1	Adapter, Oil Filter
13	122-0321	1	Gasket, Adapter
14	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")
15	850-0040	2	Washer, Lock - Spring (1/4")
16	120-0491	1	Pump, Oil
17	120-0161	1	Gasket Kit - Oil Pump
18	120-0648	1	Cup, Oil Pump Intake
19	160-1190	1	Pointer, Ignition Timing - Key 2 & 4

CRANKSHAFT AND FLYWHEEL



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	104-0170	1	Screw, Flywheel Mounting - Special
2	850-0055	1	Washer, Lock - Spring (7/16")
3	526-0262	1	Washer, Flat (15/16" ID x 1.50" OD x .31" Thk)
4	134-0673	1	Gear, Ring (Part of Flywheel)
6	FLYWHEEL (Includes Ring Gear)		
			Engines w/o Flywheel Alternator
	134-2464	1	Keys 1 and 3 - Spec A thru C
	134-4044	1	Keys 1 and 3 - Begin Spec D
	134-2768	1	Keys 2 and 4
			Engines with Flywheel Alternator
			15 Ampere
	134-2462	1	Keys 1 and 3 - Spec A thru C
	134-4045	1	Keys 1 and 3 - Begin Spec D
	134-2770	1	Keys 2 and 4
			20 Ampere
	134-2467	1	Keys 1 and 3
	134-2769	1	Keys 2 and 4

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
7	518-0014	1	Ring, Retaining - Gear
8	104-0043	1	Washer, Gear Retaining
9	104-0032	1	Gear, Crankshaft
10	515-0198	1	Key, Crankshaft Stub
11	515-0001	1	Key, Crankshaft Gear
12	515-0227	1	Key, Flywheel
13	CRANKSHAFT (Includes Keys)		
	104-1312	1	1-7/16" OD Stub Shaft
	104-1315	1	1-5/8" OD Stub Shaft
	104-1339	1	1.437" OD Stub Shaft
	104-1293	1	1.626" OD Stub Shaft
	104-1311	1	9 Tooth Spline
	104-1500	1	11 Tooth Spline
	104-1310	1	13 Tooth Spline
14	134-2433	1	Guard, Flywheel - Key 1 and 3
15	821-0010	3	Screw, Self-Locking Washer Head (1/4-20 x 1/2") - Key 1 & 3

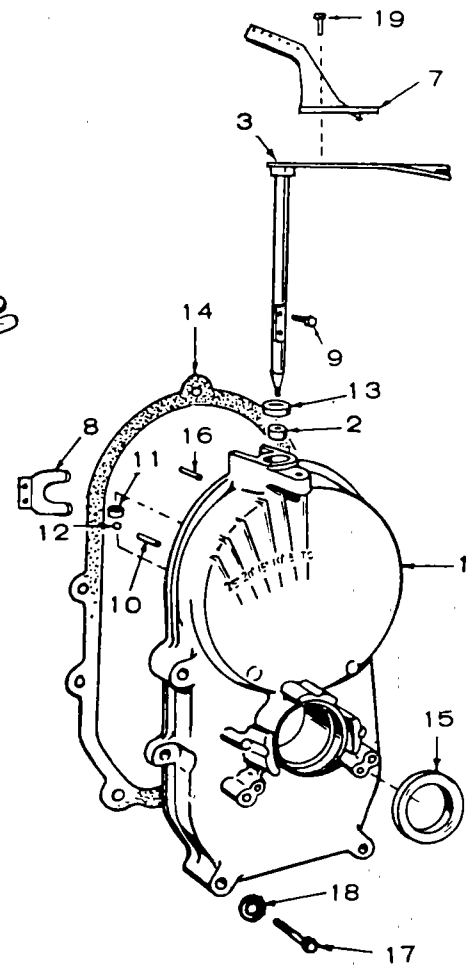
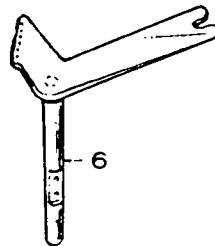
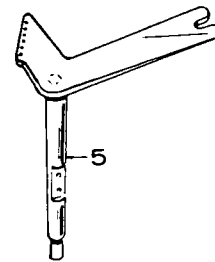
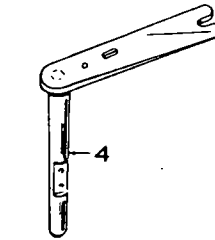
GEARCASE

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	GEARCASE, ASSEMBLY		
	103-0658	1	Key 1 and 3 - Spec A (Includes Parts Marked *)
	103-0659	1	Key 1 and 3 - Begin Spec B (Includes Parts Marked #)
	103-0661	1	Key 2 and 4 (Includes Parts Marked •)
2	BEARING, UPPER GOVERNOR SHAFT		
	510-0013	1	*Needle - Key 1 and 3 - Spec A
	510-0015	1	#•Sleeve - Key 1 and 3 - Begin Spec B, Key 2 and 4 - All Specs
3	150-1200	1	*Shaft and Arm, Governor - Key 1 and 3 - Spec A
4	150-1450	1	#Shaft and Arm, Governor - Key 1 and 3 - Begin Spec B
5	150-1436	1	Shaft and Arm, Governor - Key 2 and 4 - Spec A (Used with Gearcase which has Lower Needle Bearing)
6	150-1601	1	•Shaft and Arm, Governor - Key 2 and 4 - Begin Spec B (Use with Spec A Engines which have a Ball Bearing in Gearcase)
7	150-1073	1	Arm, Extension - Key 1 and 3
8	150-1187	1	*#•Yoke, Governor Shaft
9	815-0046	2	*#•Screw, Machine - Pan Head (#8-32 x 3/8")
10	516-0130	1	*#•Pin, Roll
11	510-0008	1	*Bearing, Needle - Key 1 and 3 Spec A
12	510-0014	1	#•Bearing, Ball - Key 1 and 3 - Begin Spec B, Key 2 and 4 - All Specs
13	509-0008	1	*#•Seal, Oil
14	103-0408	1	Gasket, Gearcase
15	509-0040	1	*•Seal, Oil
16	516-0141	2	Pin, Roll
17	SCREW, CAP - HEX HEAD		
	800-0032	4	5/16-18 x 1-3/4"
	800-0034	1	5/16-18 x 2-1/4"
18	526-0065	5	Washer, Flat - Copper (21/64" ID x 9/16" OD x 1/16" Thk)
19	815-0181	1	Screw, Tapping - Hex Head W/ET, Brass (#10-32 x 1/2")

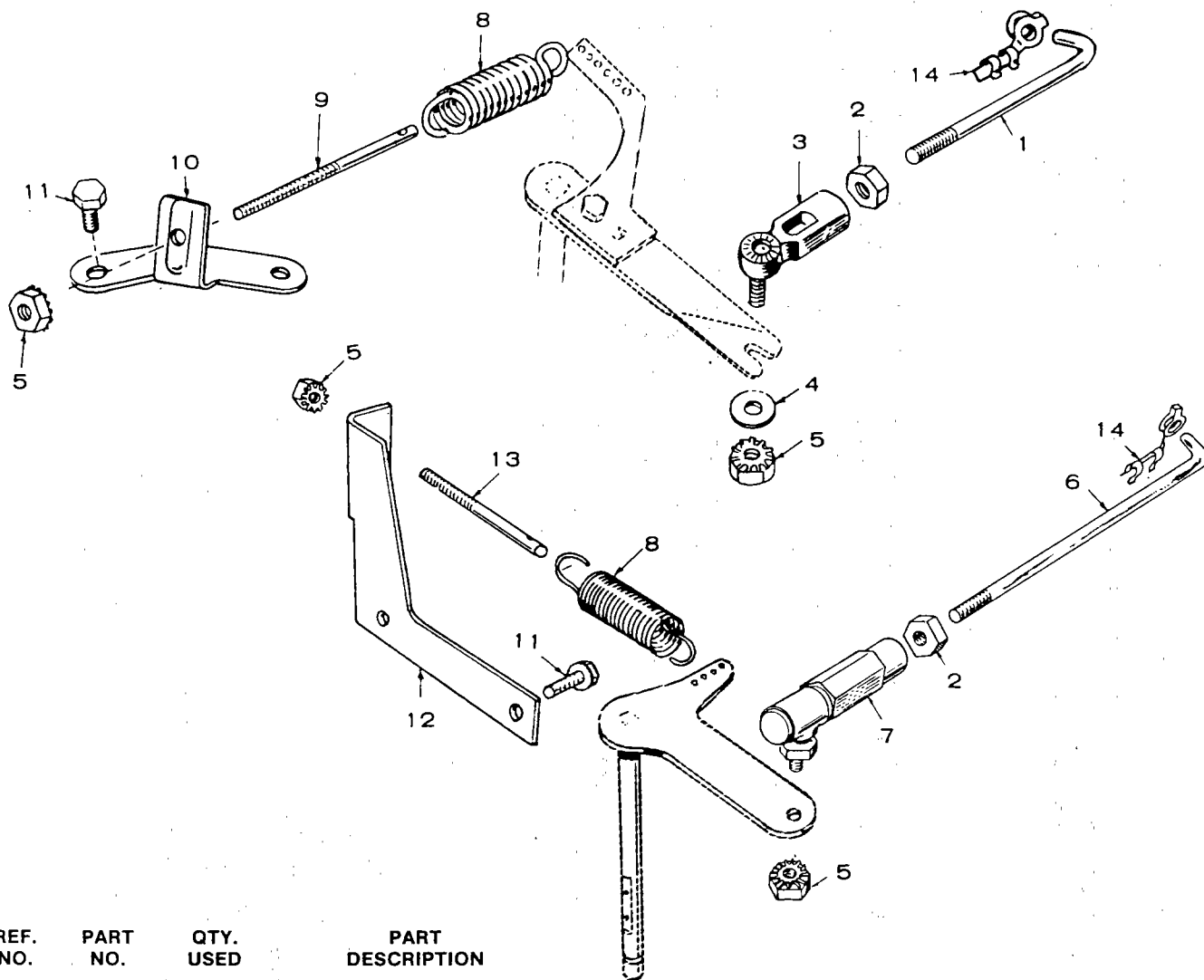
* - Parts Included in 103-0658 Gearcase Assembly.

- Parts Included in 103-0659 Gearcase Assembly.

• - Parts Included in 103-0661 Gearcase Assembly.

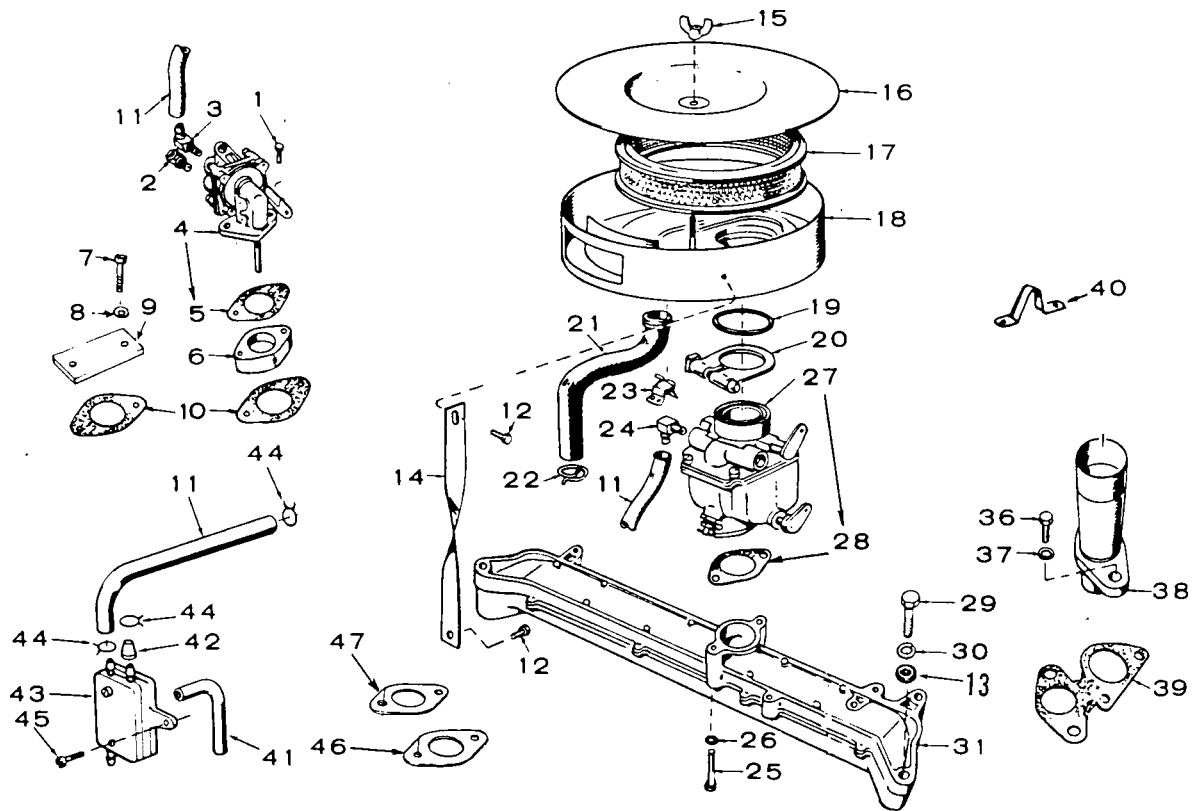


GOVERNOR



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	150-0629	1	Rod - Spec A
2	870-0053	1	Nut, Hex (3/8")
3	150-0939	1	Joint, Ball, Nylon - Spec A
4	526-0196	2	Washer, Flat (#10) - Spec A
5	870-0131	2	Nut, Hex with External Tooth Lockwasher (#10-32)
6	150-1478	1	Rod - Begin Spec B
7	150-0639	1	Joint, Ball, Steel - Begin Spec B
8	150-0098	1	Spring, Governor
9	150-0096	1	Stud, Speed Adjustment - Key 1 & 3
10	150-1262	1	Bracket, Speed Stud - Key 1 & 3
11	821-0010	2	Screw, Self-Locking - Hex Head (1/4-20 x 1/2")
12	150-1433	1	Bracket, Speed Stud - Key 2 & 4
13	STUD, SPEED ADJUSTMENT		
	150-1418	1	Key 2, Key 4 - Spec B only
	150-1594	2	Key 4
14	518-0006	1	Clip, Rod End

FUEL SYSTEM AND EXHAUST

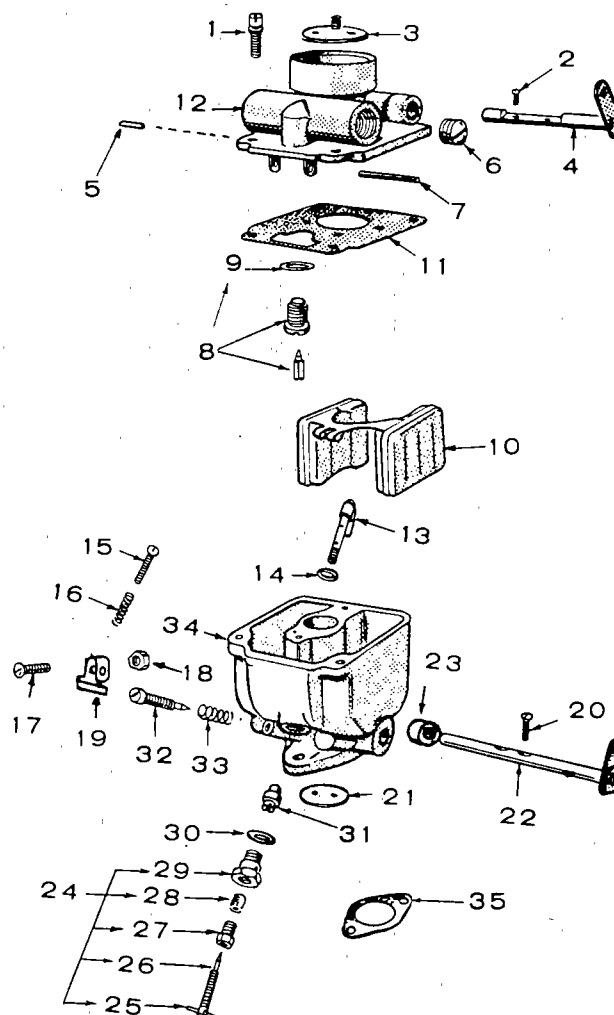


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	806-0009	2	Screw, Counterbore Cap - Hex Head (1/4-20 x 1-1/4") - Key 1 and 3, Spec A thru C
2	502-0065	1	Elbow, Pipe - 45° - Key 1 and 3, Spec A thru C
3	502-0313	1	Elbow, Hose - Key 1 and 3, Spec A thru C
4	149-1791	1	Pump, Fuel (See Separate Group for Components, Includes Mounting Gasket) - Key 1 and 3, Spec A thru C
5	149-0003	1	Gasket, Fuel Pump Mounting - Spec A thru C
6	149-0045	1	Spacer, Fuel Pump - Key 1 and 3, Spec A thru C
7	800-0004	2	Screw, Cap - Hex Head (1/4-20 x 5/8") - Key 2 and 4
8	526-0063	2	Washer, Flat - Copper (17/64" ID x 7/16" OD x 1/32" Thk) - Key 2 & 4
9	149-0136	1	Cover, Plate - Fuel Pump Opening - Key 2 & 4
10	149-0003	1	Gasket
11	503-0707	1	Hose, Fuel - Key 1 & 3
12	821-0010	2	Screw, Cap - HWH (1/4-20 x 1/2")
13	526-0026	4	Washer, Flat (13/32 ID x 3/4 OD x 1/16" Thk)
14	SUPPORT, AIR CLEANER		
	140-1245	1	Key 1 and 3
	140-1279	1	Key 2 and 4
	865-0020	1	Nut, Wing (1/4-20)
	140-1232	1	Cover, Air Cleaner
	140-1228	1	Element, Air Cleaner
	140-1243	1	Housing, Air Cleaner
	509-0124	1	Seal, O-Ring
	140-1058	1	Clamp, Air Cleaner
	123-1263	1	Tube, Breather
	503-0171	1	Clamp, Hose
	518-0328	1	Clip, Retaining - Cable

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
24	FITTING, HOSE - CARBURETOR INLET		
	502-0313	1	Elbow, Hose
	502-0395	1	Connector, Hose - Begin Spec B
25	800-0012	2	Screw, Cap - Hex Head (1/4-20 x 2-1/4")
26	850-0040	2	Washer, Lock - Spring (1/4")
27	142-0503	1	Carburetor, Gasoline (See Separate Group for Components, Includes Mounting Gasket)
	0635 Kit		
28	145-0438	1	Gasket, Carburetor Mounting
29	800-0058	4	Screw, Cap - Hex Head (3/8-16 x 3")
30	850-0050	4	Washer, Lock - Spring (3/8")
31	MANIFOLD, INTAKE		
	154-2292	1	Spec A thru C
	154-2293	1	Begin Spec D
36	800-0512	4	Screw, Cap - Hex Head (5/16-18 x 1")
37	850-0045	4	Washer, Lock - Spring (5/16")
38	154-1484	2	Adapter, Exhaust
39	154-1528	2	Gasket, Intake and Exhaust - Spec A thru C
40	403-1125	2	Bracket, Lifting
41	503-0707	1	Hose, Fuel Pump Vacuum - Begin Spec D
42	149-1321	1	*Cap, Fuel Outlet - Key 3, Begin Spec D
43	149-1982	1	Pump, Fuel (See Separate Group for Components, Includes Parts Marked *) - Key 3, Begin Spec D
44	503-0301	3	*Clamp, Hose - Key 3, Begin Spec D
45	815-0555	2	Screw, Tapping - Pan Head (#10-24 x 5/8")
46	154-1482	2	Gasket, Exhaust - Begin Spec D
47	154-2219	2	Gasket, Intake - Begin Spec D
48	503-0731	1	Clamp, WIRE (1/2")

* - Parts Included in 149-1982 Fuel Pump Kit.

CARBURETOR PARTS



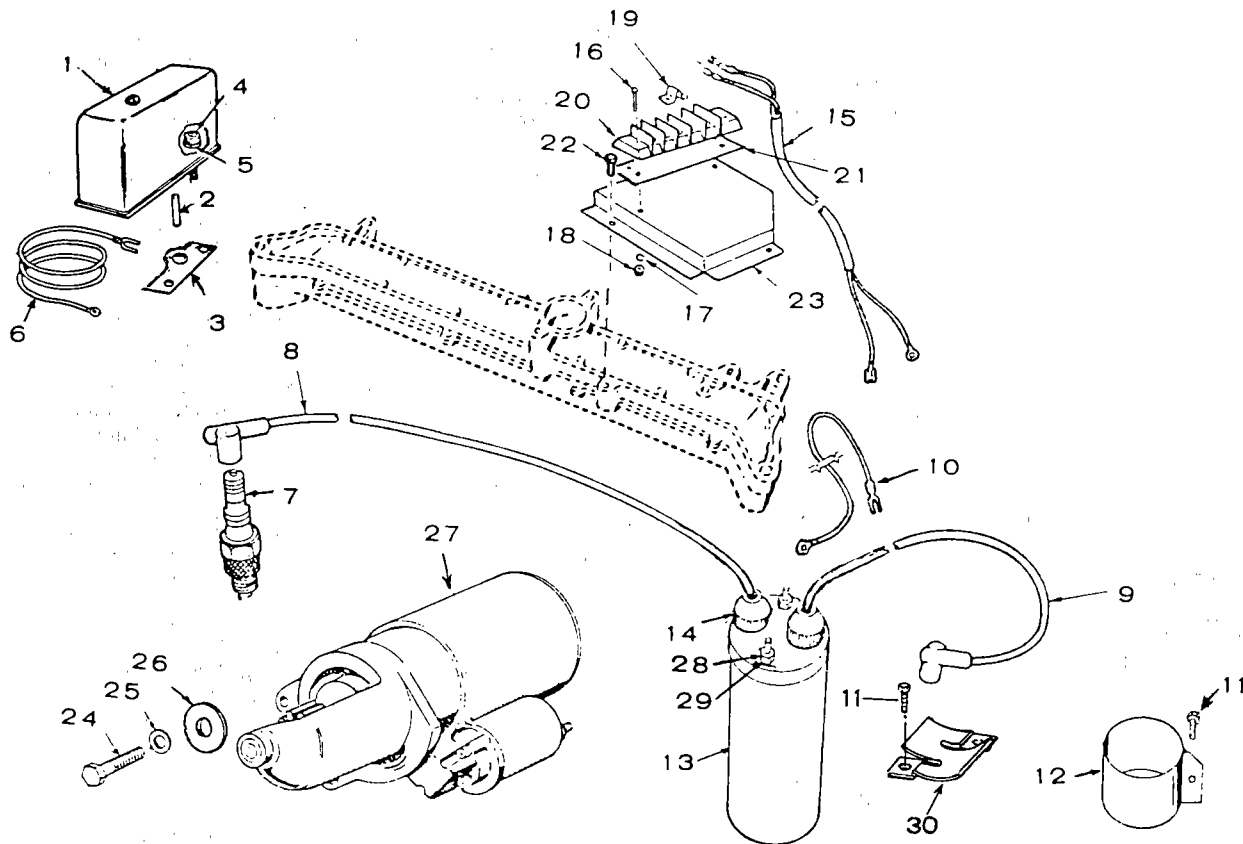
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	142-0635	1	£Carburetor	16	142-0035	1	Spring, Throttle Stop Screw
	142-0371	1	Repair Kit (Includes Parts Marked *)	17	813-0102	1	Screw, Machine - Round Head (#10-32 x 5/8")
	142-0033	1	*Gasket Kit (Includes Parts Marked †)	18	861-0008	1	Nut, Hex (#10-32)
1	815-0109	3	Screw, Machine - Fillister Head (#10-24 x 5/8")	19	145-0445	1	Lever, Idle Stop
2	815-0091	2	*Screw, Machine - Fillister Head with Internal Tooth Lockwasher (#4-40 x 3/16")	20	815-0072	2	*Screw, Machine - Oval Head (#4-40 x 1/4")
3	142-0055	1	Fly, Choke	21	142-0369	1	Fly, Throttle
4	142-0420	1	Shaft, Choke	22	142-0368	1	*Shaft, Throttle
5	142-0227	1	Pin, Dowel - Choke Stop	23	142-0343	2	*Bushing, Throttle Shaft
6	505-0008	1	Plug, Fuel Inlet	24	142-0042	1	Needle Assembly, Main
7	142-0039	1	*Shaft, Fuel Float	25	516-0027	1	Pin, Dowel - Main Needle
8	142-0049	1	*Valve and Seat Assembly, Float	26	142-0041	1	*Needle, Main Adjusting
9	148-0017	1	†Gasket - Float Valve Seat	27	142-0045	1	Retainer, Main Needle Packing
10	142-0361	1	Float, Fuel	28	142-0206	1	*Packing, Main Needle
11	142-0031	1	†Gasket - Body to Cover	29	142-0046	1	Retainer, Main Needle
12	142-0205	1	Cover, Carburetor	30	148-0017	1	†Gasket - Main Needle
13	142-0285	1	Nozzle, Fuel	31	142-0370	1	Nut and Jet Assembly
14	142-0032	1	†Gasket, Nozzle	32	142-0040	1	*Needle, Idle Adjusting
15	812-0065	1	Screw, Machine - Round Head (#6-32 x 5/8")	33	142-0282	1	Spring, Idle Needle
				34		1	Body, Carburetor (Not Sold Separately)
				35	145-0438	1	£†Gasket

* - Included in Repair Kit.

† - Included in Gasket Kit.

£ - Mounting Gasket supplied with Replacement Carburetor.

IGNITION SYSTEM

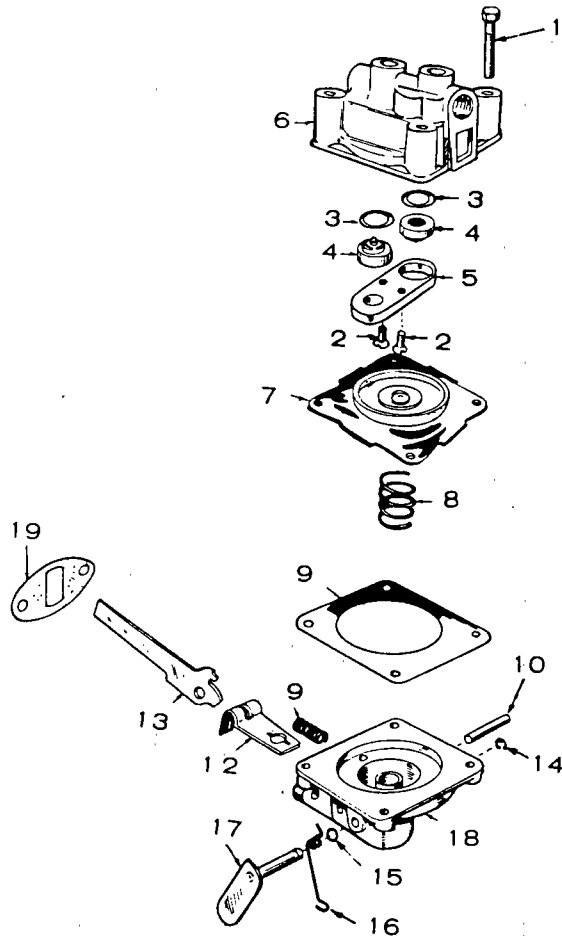


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	160-1210	1	BREAKER BOX ASSEMBLY (See Separate Group for Components)
	160-1158	1	Begin Spec C
2	160-1151	1	Spec A and B
3	160-1150	1	Plunger
4	802-0034	2	Gasket
5	850-0038	2	Screw, Cap - Socket Head (1/4-20 x 3/4")
6	336-2378	1	Washer, Lock - Spring (1/4")
7	167-0240	2	LEAD, COIL TO TERMINAL BLOCK
	167-0247	2	14" Long
	167-0291	2	12" Long
8	167-1594	1	PLUG, SPARK
	167-1595	1	Spec A Thru C
	167-1596	1	Non-Resistor
	167-1597	1	Resistor
9	167-1598	1	Begin Spec D
	167-1599	1	Resistor
10	166-0702	1	STARTER (See Separate Group for Components)
	336-3145	1	Spec A
11	821-0010	1	Begin Spec B - Replaced By 191-1682-03
	815-0261	2	Nut, Hex (Special)
12	166-0617	1	Washer, Lock - Spring (Special)
	503-0311	1	Washer, Flat (13/16" ID x 3/4" OD x 1/16" Thk)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
13	166-0535	1	Coil, Ignition
14	166-0604	2	Cap (Part of Ignition Coil) #166-0535
15	338-0619	1	Harness, Wiring - Starter to Terminal Block
16	812-0081	2	Screw, Machine - Round Head, Cross Recessed (#8-32 x 5/8")
17	850-0025	2	Washer, Lock - Spring (#8)
18	860-0008	2	Nut, Hex (#8-32)
19	332-1043	1	Jumper, Terminal
20	332-0604	1	Block, Terminal
21	332-1273	1	Strip, Marker
22	821-0004	2	Screw, Self-locking - Hex Head (#10-32 x 5/16")
23	301-3530	1	Bracket, Terminal Block
24	800-0051	2	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
25	850-0050	2	Washer, Lock - Spring (3/8")
26	526-0026	2	Washer, Flat (13/16" ID x 3/4" OD x 1/16" Thk)
27	191-0734	1	STARTER (See Separate Group for Components)
	191-1052	1	Spec A
	191-1053	1	Begin Spec B - Replaced By 191-1682-03
28	166-0554	2	Nut, Hex (Special)
29	850-2005	2	Washer, Lock - Spring (Special)
30	166-0741	1	Bracket, Ign. Coil - Begin Spec D
31	166-0614	2	Bushing, Rubber (INSIDE Cap (166-0604))
	160-1376	1	Kit, Electrical (converts Breaker Ignition to Electronic)

FUEL PUMP PARTS (MECHANICAL TYPE)

KEY 1 AND 3, SPEC A THRU C



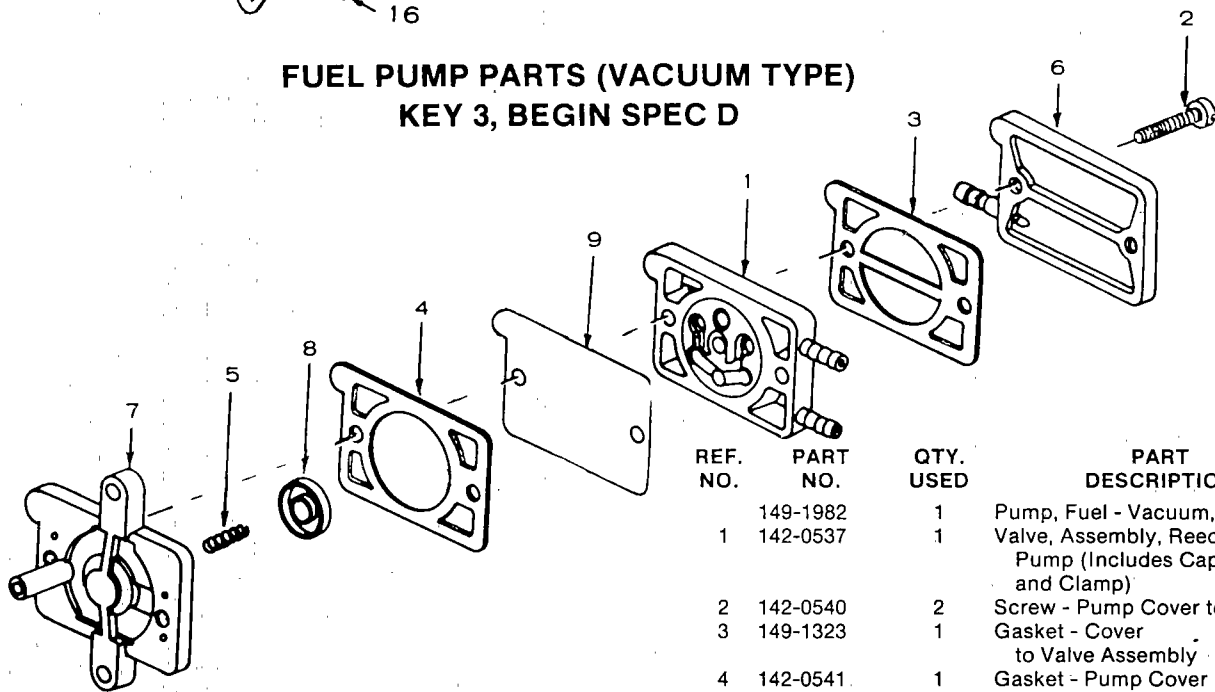
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	149-1791	1	£ Pump, Fuel
	149-0526	1	Kit, Repair (Includes Parts Marked *)
1	815-0148	4	Screw, Machine - Hex Head, Heat Treated, Plated (#8-32 x 7/8")
2	815-0147	2	Screw, Tapping - Oval Head, Cross Recessed (#6-32 x 7/8")
3	149-0095	2	* Gasket, Check Valve
4	149-0096	2	* Valve, Check
5	149-0539	1	Retainer, Check Valve
6		1	Body, Top - Fuel Pump (Not Sold Separately)
7	149-0582	1	* Diaphragm, Fuel Pump
8	149-0672	1	* Spring, Diaphragm
9	149-0858	1	* Gasket, Diaphragm - Air Lock Prevention
10	516-0113	1	Pin, Dowel - Rocker Arm
11	149-0675	1	Spring, Rocker Arm
12	149-0670	1	Link, Rocker Arm
13	149-1148	1	Arm, Rocker
14	518-0129	1	Ring, Retaining
15	509-0065	2	Seal, "O" Ring
16	149-1044	1	Spring, Primer Lever
17	149-1042	1	Lever, Priming
18		1	Body, Lower - Fuel Pump (Not Sold Separately)
19	149-0003	1	£ * Gasket

* - Included in Repair Kit.

£ - Mounting Gasket supplied with Replacement Fuel Pump.

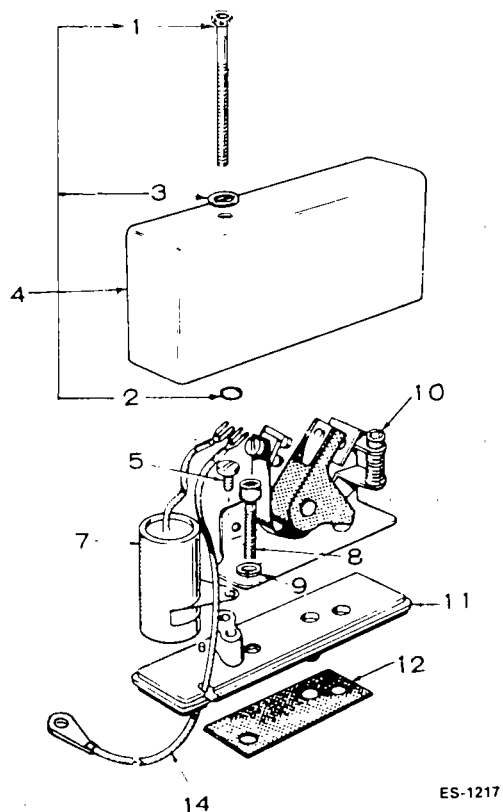
FUEL PUMP PARTS (VACUUM TYPE)

KEY 3, BEGIN SPEC D



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	149-1982	1	Pump, Fuel - Vacuum, Pulse
1	142-0537	1	Valve, Assembly, Reed - Fuel Pump (Includes Cap and Clamp)
2	142-0540	2	Screw - Pump Cover to Body
3	149-1323	1	Gasket - Cover to Valve Assembly
4	142-0541	1	Gasket - Pump Cover
5	142-0545	1	Spring - Fuel Pump
6	149-1983	1	Cover, Pump (Includes Cap & Clamp)
7	149-1324	1	Base, Pump
8	142-0552	1	Plate, Drive - Fuel Pump
9	142-0555	1	Diaphragm - Fuel Pump

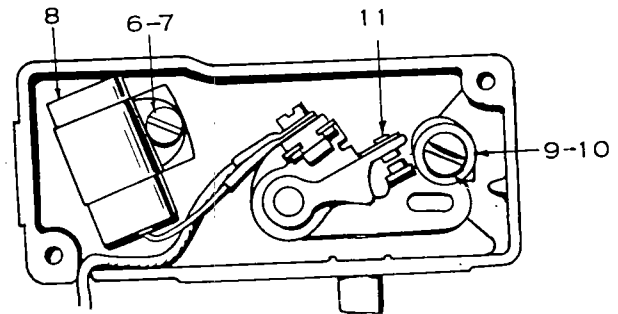
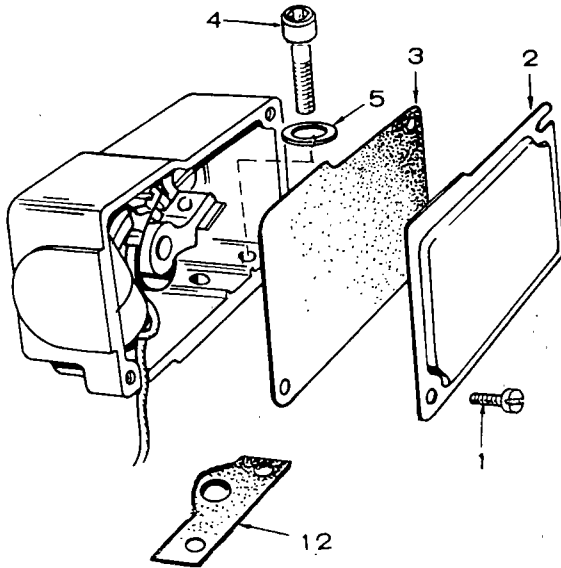
BREAKER BOX (TOP ADJUSTABLE) - BEGIN SPEC C



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	160-1303	1	Breaker Box (Includes Parts Marked *)
1	802-0022	1	*Screw, Cap - Hex Socket (#10-24 x 1-1/2")
2	509-0065	1	*Retainer ("O" Ring)
3	526-0008	1	*Washer, Flat (13/64 ID x 7/16 OD x 1/32" Thk)
4	160-1285	1	*Cover, Breaker Box
5	815-0358	1	*Screw, Cap - Slotted (#8-32 x 5/16")
7	312-0244 0244 0246	1	*Condenser
8	802-0034	2	*Screw, Cap - Socket Head (1/4-20 x 3/4")
9	850-0040	2	*Washer, Lock (1/4")
10	160-1183	1	*Point Set, Breaker
11	160-1219	1	*Base, Breaker
12	160-1150	1	*Gasket, Breaker Box
14	336-2378	1	Lead, Breaker Box to Coil
	160-1311	1	Tune Up Kit (Includes Points and Condenser)

* - Parts Included in 160-1303 Breaker Box.

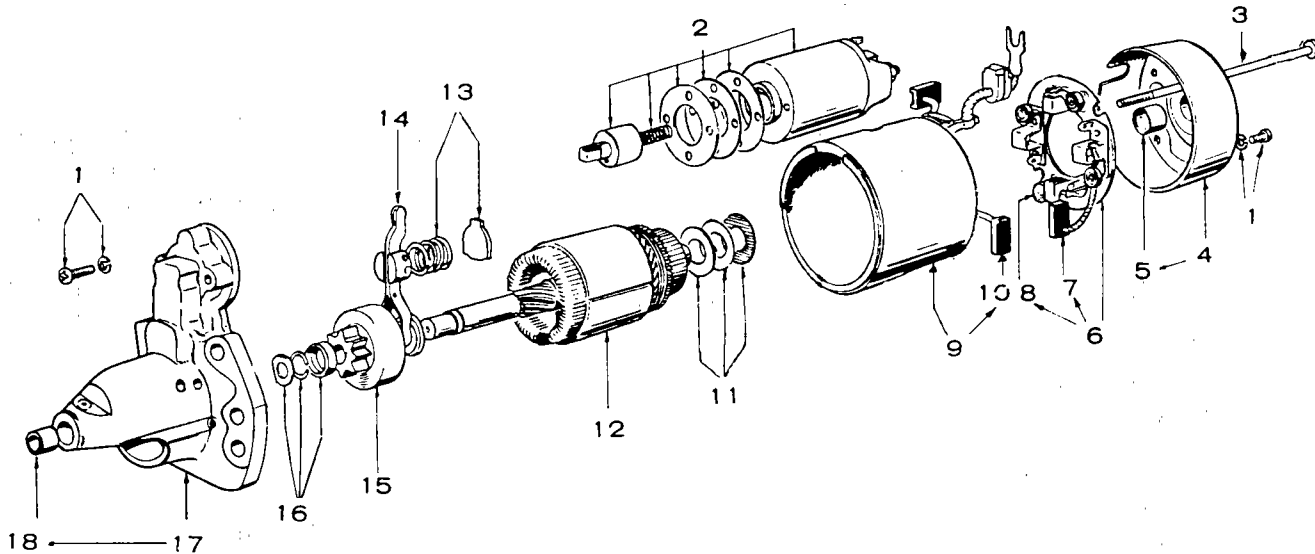
BREAKER BOX (SIDE ADJUSTABLE) - SPEC A AND B



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	160-1158	1	Box Assembly, Breaker
2	815-0358	2	Screw, Tapping - Hex Head, Slotted (#8-32 x 5/16")
3	160-1149	1	Cover, Breaker Box
4	160-1148	1	Gasket, Cover
5	802-0034	2	Screw, Cap - Socket Head (1/4-20 x 3/4")
6	850-0038	2	Washer, Lock - Spring (1/4")
7	815-0403	1	Screw, Tapping - Pan Head (#8-32 x 5/16")
8	850-0025	1	Washer, Lock - Spring (#8)
9	312-0069	1	Condenser, Ignition
10	870-0221	1	Nut, Hex with External Tooth Lockwasher (#8-32)
11	815-0405	1	Screw, Machine - Pan Head, Cross Recessed (#8-32 x 1/2")
12	160-1154	1	Point Set, Breaker
	160-1150	1	£Gasket
	160-1161	1	Kit, Ignition Tune-Up (Includes Point Set and Condenser)

£ - Mounting Gasket supplied with new unit.

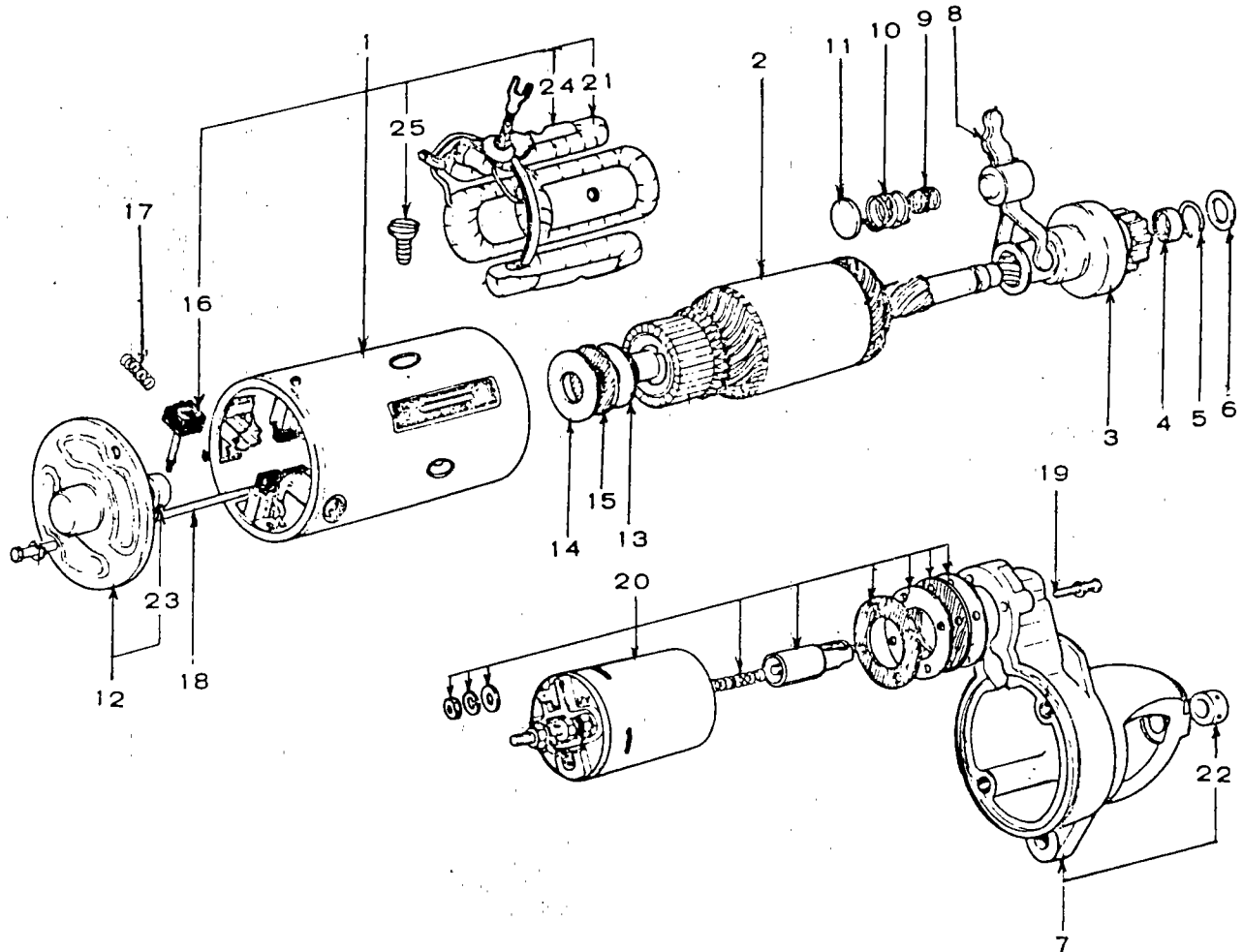
STARTER PARTS - BEGIN SPEC B



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	191-1052	1	Starter - <i>Replaced By 191-1949-03</i>
1	191-1011	1	Screw & Washer Set
2	191-0987	1	Solenoid Assembly
3	191-0988	2	Bolt - Hex Washer Head
4	191-1009	1	Bracket, Rear - Starter (Includes Rear Sleeve Bearing)
5	191-1010	1	Bearing, Sleeve (Rear)
6	191-1006	1	*Holder, Brush (Includes Negative Brush and Brush Springs)
7	191-1008	1	*Brush, Starter (Negative)
8	191-1007	3	*Spring, Helical, Compression (Brush)
9	191-1089	1	Yoke Assembly, (Includes Frame, Pole Shoes, Field Coil and Replaceable Positive Brushes)
10	191-1005	2	Brush, Starter (Positive)
11	191-0997	1	Insulating, Washer Set
12	191-1088	1	Armature, Starter
13	191-0984	1	Plate & Spring Set
14	191-0983	1	Lever, Clutch
15	191-1087	1	Clutch & Pinion Gear
16	191-0991	1	Stop Retaining Set - Pinion Gear
17	191-1086	1	Bracket, Front - Starter (Includes Front Sleeve Bearing)
18	191-0971	1	Bearing, Sleeve (Front)

* - Early Brush Holder equipped with Two (2) Negative Brushes and Four (4) Brush Springs - Completely Interchangeable with Current Brush Holder. When replacing the negative brushes on early models only one (1) is required, but two (2) may be used.

STARTER PARTS - SPEC A ONLY

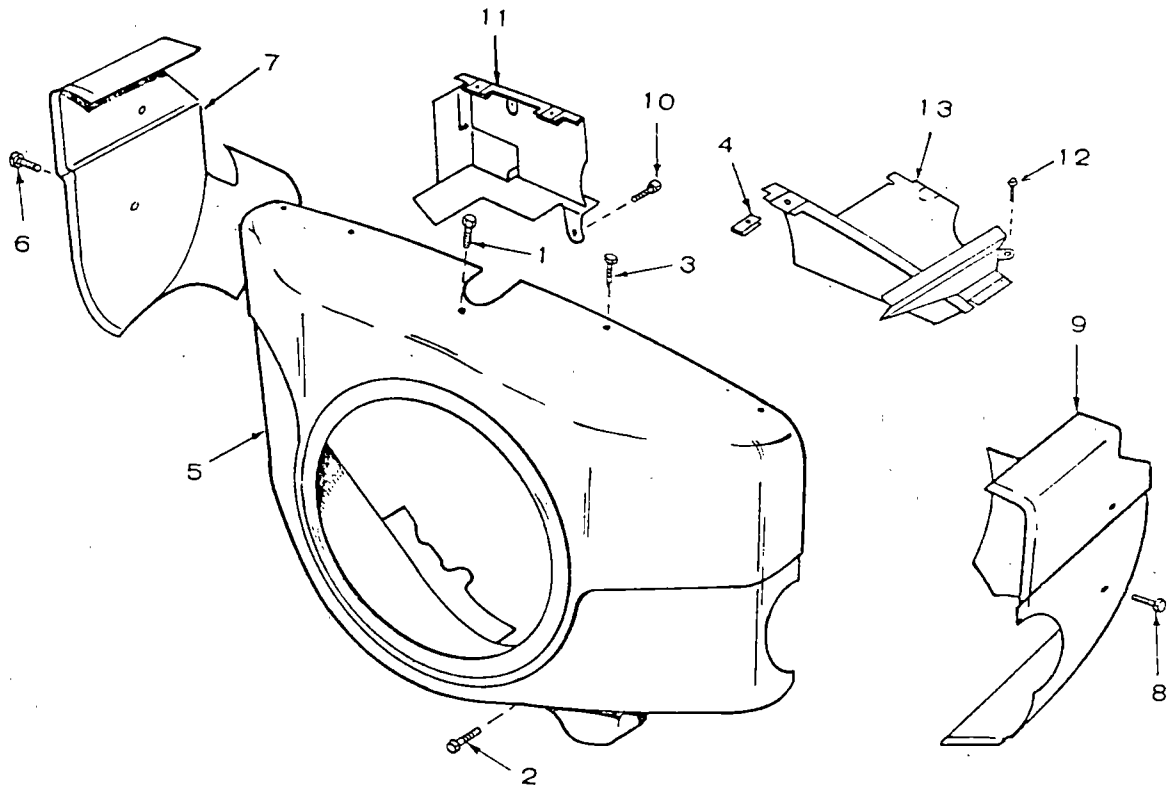


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	191-0734	1	Starter
1	191-0742	1	Yoke Assembly (Includes Parts Marked *)
2	191-0743	1	Armature, Starter
3	191-0744	1	Clutch - Pinion Gear, Starter
4	191-0745	1	Stop, Pinion Gear
5	191-0746	1	Ring, Retaining
6	191-0747	1	Washer, Thrust
7	191-0748	1	Bracket, Starter - Front (Includes Bearing)
8	191-0749	1	Lever, Clutch
9	191-0750	1	Spring, Helical, Compression (A)
10	191-0751	1	Spring, Helical, Compression (B)
11	191-0752	1	Holder, Spring
12	191-0753	1	Bracket, Starter - Rear (Includes Bearing)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
13	191-0754	1	Washer, Flat
14	191-0755	1	Washer, Flat
15	191-0756	1	Insulator, Disc
16	191-0757	4	*Brush, Starter
17	191-0758	4	Spring, Helical, Compression (Brush)
18	191-0759	2	Bolt, Machine (Through)
19	191-0760	3	Screw, Machine, Pan Head
20	191-0761	1	Solenoid, Starter
21	191-0762	1	*Coil, Field, Starter
22	191-0763	1	Bearing, Sleeve (Front)
23	191-0764	1	Bearing, Sleeve (Rear)
24	191-0765	4	*Shoe, Pole, Field Coil
25	191-0766	4	*Screw, Machine, Pan Head

* - Included in Yoke Assembly.

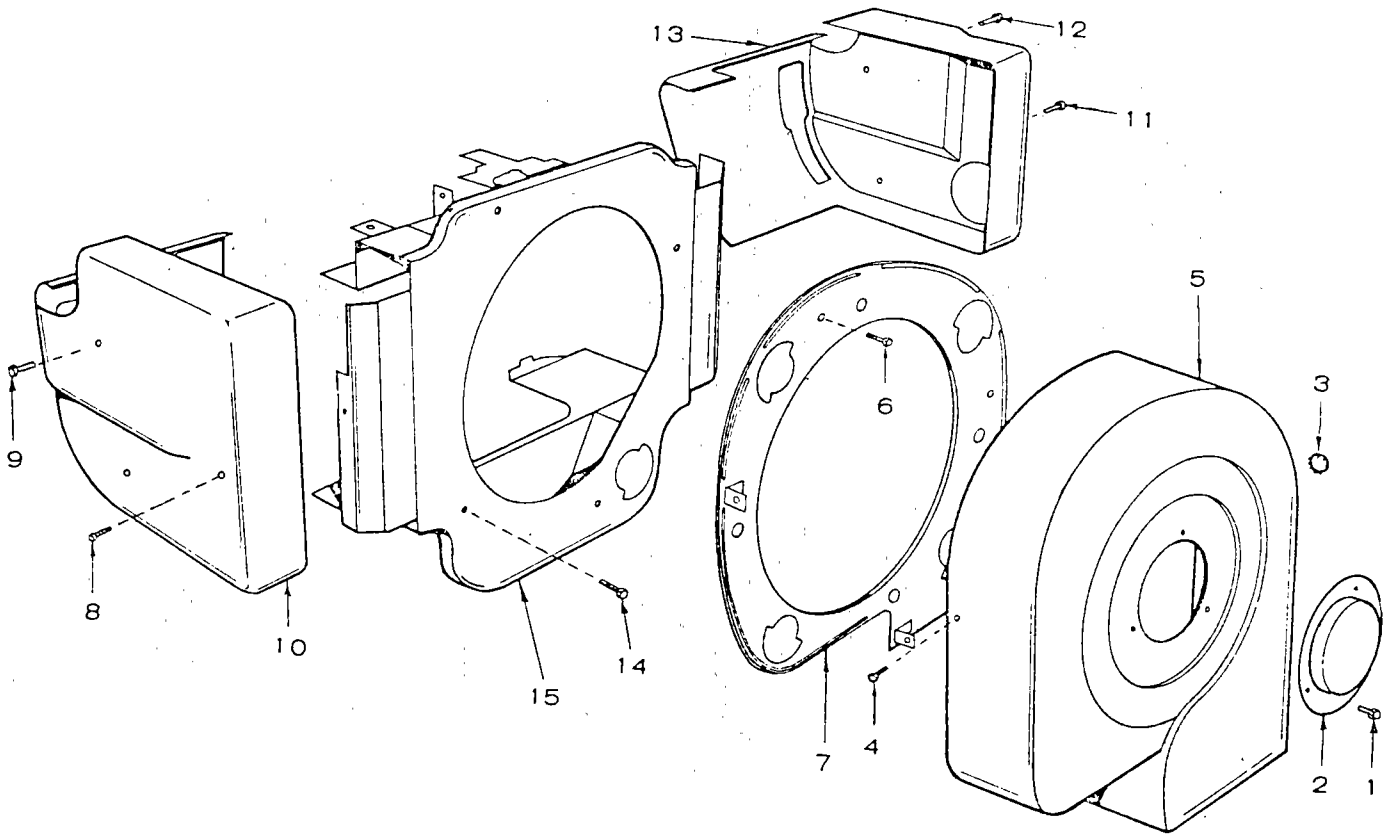
AIR HOUSING (PRESSURE FLO COOLING) - KEY 1 & 3



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	815-0290	1	Screw, Tapping - HWH (1/4-20 x 5/8")
2	821-0010	2	Screw, HWH - Self-Locking (1/4-20 x 1/2")
3	815-0474	4	Screw, Tapping - HWH (1/4-20 x 1/2")
4	870-0107	4	Nut, Speed (1/4")
5	HOUSING, BLOWER		
	134-2494	1	Spec A
	134-2811	1	Spec B
	134-3021	1	Spec C
	134-4083	1	Spec D
6	815-0261	2	Screw, Tapping - HWH (1/4-20 x 1/2")
7	HOUSING, AIR - LEFT SIDE		
	134-2489	1	Spec A and B
	134-3010	1	Spec C
	134-3580	1	Begin Spec D

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
8	815-0261	2	Screw, Tapping - HWH (1/4-20 x 1/2")
9	HOUSING, AIR - RIGHT SIDE		
	134-2488	1	Spec A
	134-2799	1	Spec B
	134-3282	1	Spec C
	134-3579	1	Begin Spec D
10	815-0370	2	Screw, Tapping - Hex Head (1/4-20 x 1/2")
11	134-2487	1	Support, Housing - Left Side
12	815-0261	2	Screw, Tapping - HWH (1/4-20 x 1/2")
13	SUPPORT, HOUSING - RIGHT SIDE		
	134-3012	1	Begin Spec C
	134-2483	1	Spec A & B

AIR HOUSING (VACU-FLO COOLING) - KEY 2 & 4



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	821-0009	3	Screw, Self-locking - HWH (1/4-20 x 3/8")
2	134-3119	1	Cover, Scroll - PTO Hole
3	517-0021	1	Plug, Button
4	821-0010	5	Screw, Self-locking - HWH (1/4-20 x 1/2")
5	134-2761	1	Scroll, Air (Includes Built-in Guard Screens)
6	821-0010	4	Screw, Self-locking - HWH (1/4-20 x 1/2")
7	134-2747	1	Backplate, Scroll
8	821-0010	1	Screw, Self-locking - HWH (1/4-20 x 1/2")
9	815-0261	2	Screw, Tapping - HWH (1/4-20 x 1/2")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
10	HOUSING, AIR - LEFT SIDE		
	134-2755	1	Spec A Thru C
	134-3617	1	Begin Spec D
11	821-0010	1	Screw, HWH - Self-locking (1/4-20 x 1/2")
12	815-0261	2	Screw, Tapping - HWH (1/4-20 x 1/2")
13	HOUSING, AIR - RIGHT SIDE		
	134-2752	1	Spec A Thru C
	134-3618	1	Begin Spec D
14	821-0010	4	Screw, HWH - Self-locking (1/4-20 x 1/2")
15	HOUSING, BLOWER		
	134-2737	1	Spec A Thru C
	134-3421	1	Begin Spec D

SERVICE KITS AND MISCELLANEOUS

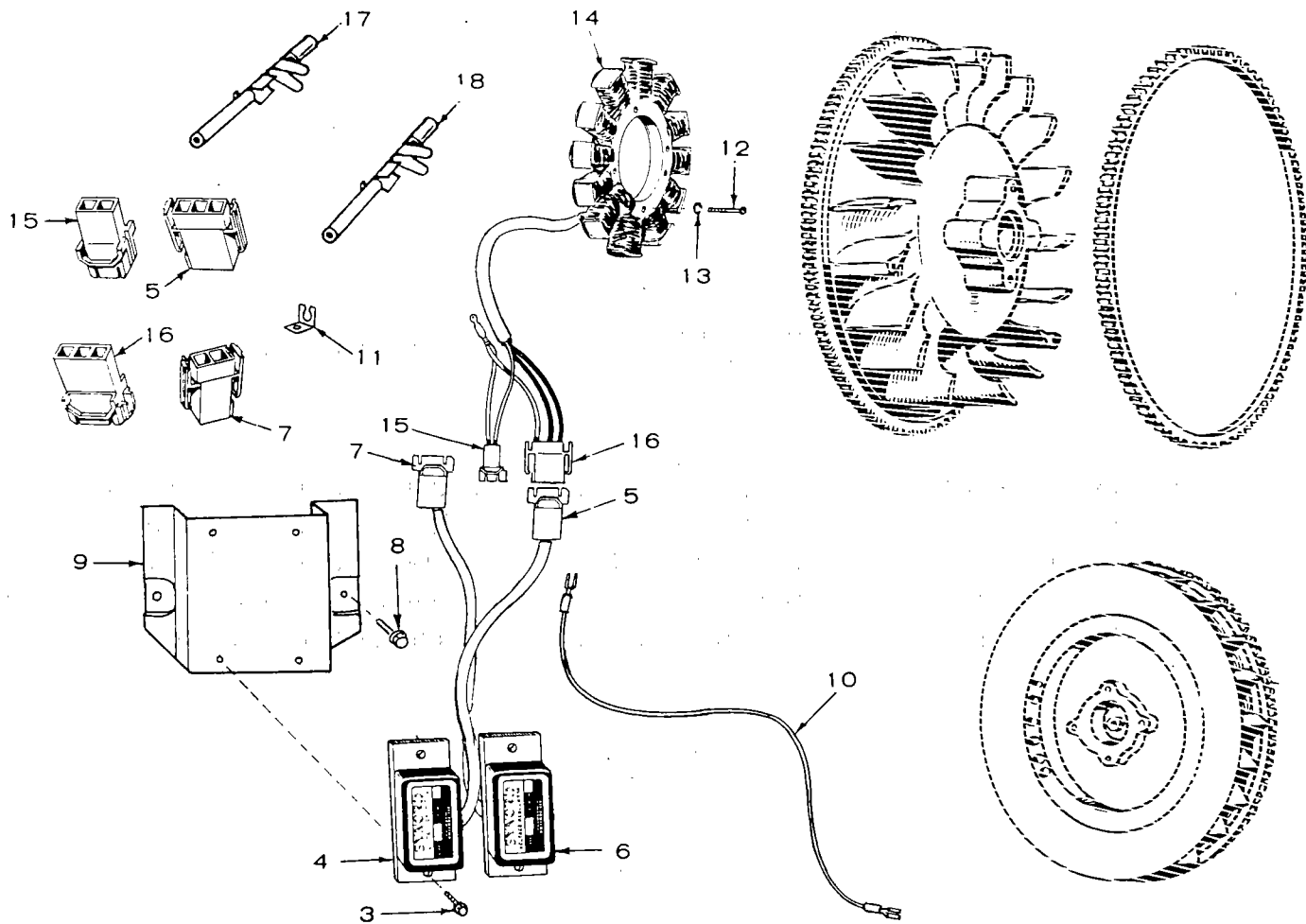
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	98-1807	1	Kit, Decal
	168-0122	1	Kit, Gasket (Complete Engine) - Spec A Thru C
	168-0157	1	Kit, Gasket (Complete Engine) - Begin Spec D
	168-0121	1	Kit, Gasket (Carbon Removal) - Spec A Thru C
	168-0158	1	Kit, Gasket (Carbon Removal) - Begin Spec D
	522-0271	1	Kit, Engine Overhaul, Spec A and B - Key 1 & 2
	522-0304	1	Kit, Engine Overhaul, Spec C - Key 1 & 2
	522-0272	1	Kit, Engine Overhaul, Spec A and B - Key 3 & 4
	522-0305	1	Kit, Engine Overhaul, Spec C - Key 3 & 4
	522-0320	1	Kit, Engine Overhaul, Begin Spec D - Key 3 & 4
	525-0137	1	Paint, Touch-up, Metallic Green (13 oz. Pressurized Can)
	525-0305	1	Paint, Touch-up, Non-Metallic Green (13 oz. Pressurized Can)
	525-0454	1	Paint, Touch-up, Greige (13 oz. Pressurized Can)

NOTE: For Additional Kits, refer to the Applicable Parts
Group in Question.

OPTIONAL EQUIPMENT PARTS SECTION

This section contains illustrated parts listing of factory installed options for these Industrial Engines. Options may not be applicable to all models; for field conversions additional parts are usually required. Some parts listed in the standard engine parts section beginning Spec C are also applicable as optional parts for Spec A and B. Optional parts listed in this section are in addition or in place of those shown in the standard engine parts section.

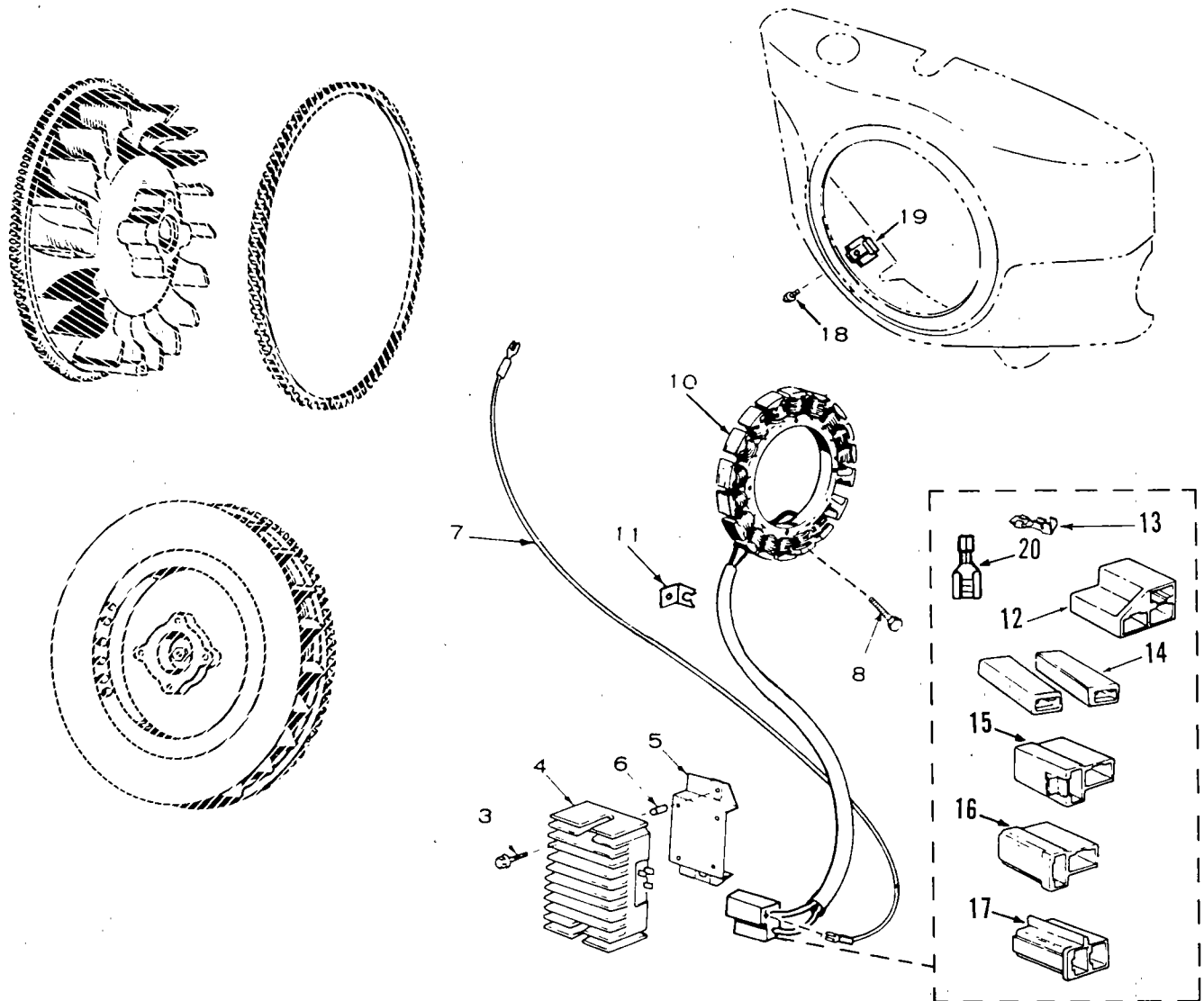
OPTION 1 **FLYWHEEL ALTERNATOR - 20 AMPERE (SYNCHRO)**



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	FLYWHEEL (Includes Alternator Rotor & Ring Gear).		
	Ref.	1	Key 1 and 3
	Ref.	1	Key 2 and 4
2	Ref.	1	Gear, Ring - Flywheel
3	815-0181	4	Screw, Cap - Hex Head with External Tooth Lockwasher (#10-32 x 5/16")
4	191-0938	1	Rectifier, Current (Includes a Connector Plug and 3 Female Contacts)
5	323-0882	1	Plug, Connector
6	191-0939	1	Regulator, Voltage (Includes a Connector Plug and 2 Female Contacts)
7	323-0880	1	Plug, Connector

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
8	821-0010	2	Screw, Self-locking - Hex Head (1/4-20 x 1/2")
9	191-1107	1	Bracket, Mounting - Rectifier & Regulator
10	336-2192	1	Lead, Electrical - Regulator to Terminal Block
11	167-0188	1	Clip, Cable
12	813-0108	3	Screw, Machine - Round Head, Cross Recessed (#10-32 x 1-1/4")
13	850-0030	3	Washer, Lock - Spring (#10)
14	191-0937	1	Stator, Alternator (Includes 2 Connectors and 5 Male Contacts)
15	323-0879	1	Cap, Connector
16	323-0881	1	Cap, Connector
17	323-0488	5	Contact, Connecting - Female
18	323-0496	5	Contact, Connecting - Male

OPTION NO. 2
FLYWHEEL ALTERNATOR - 15 AMPERE (PHELOM)



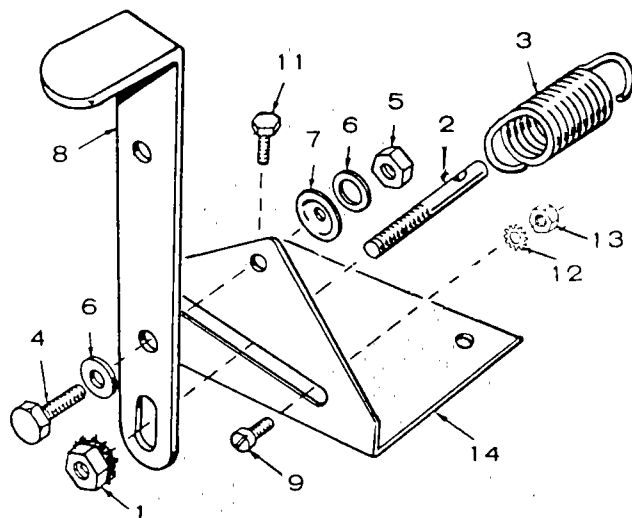
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	FLYWHEEL (Includes Alternator Rotor & Ring Gear)		
Ref.		1	Key 1 and 3
Ref.		1	Key 2 and 4
2	Ref.	1	Gear, Ring - Flywheel
3	821-0012	2	Screw, Cap - HWH (1/4-20 x 1-1/8")
4	191-0886	1	Regulator, Voltage - Spec A Through C
5	191-1107	1	Bracket, Mounting - Regulator
6	134-2100	2	Spacer, Sleeve
7	336-2192	1	Lead, Electrical - Regulator to Terminal Block
8	815-0593	3	Screw, Machine - Hex Head, Self-lock (#10-32 x 1-3/8")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
10	191-1256	1	Stator, Alternator (Includes Parts Marked *)
11	167-0188	1	Clip, Alternator Lead
12	323-0853	1	*Body, Connector
13	332-2073	3	*Terminal, Wire
14	323-1257	3	*Body, Terminal Connector - Kit (Includes Parts Marked +)
15	323-1085	1	*Body, Terminal Connector
16	323-0892	1	*Body, Terminal Connector
17	323-0890	1	*Body, Terminal Connector
18	821-0010	1	Screw, Cap - HWH (1/4-20 x 1/2")
19	191-1206	1	Regulator, Voltage - Begin Spec D
20	332-2423	3	+Terminal, Stator Leads

* - Parts Included in 191-1256 Stator Assembly.

+ - Parts Included in 323-1257 Terminal Connector Body.

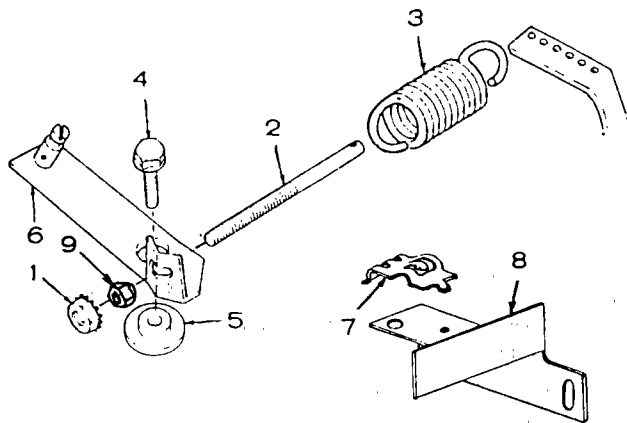
OPTION 3 GOVERNOR CONTROL (VARIABLE SPEED)



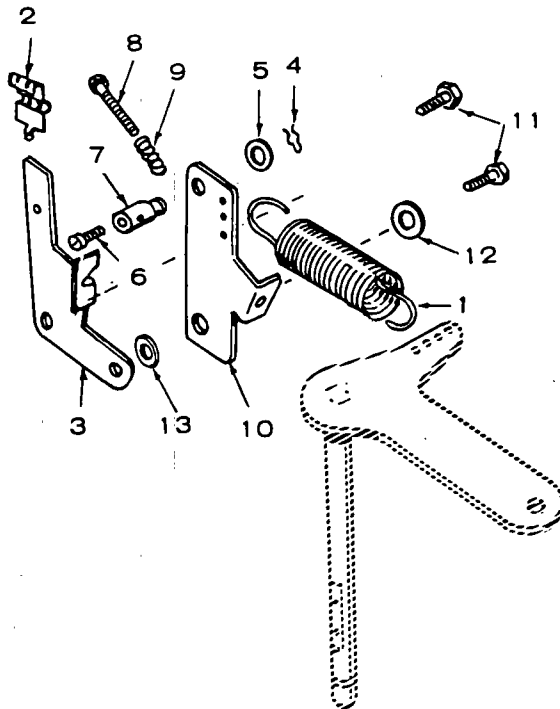
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	870-0131	1	Nut, Hex with External Tooth Lockwasher (#10-32)
2	150-C177	1	Stud, Speed Adjustment
3	150-0098	1	Spring
4	800-0005	1	Screw, Cap - Hex Head (1/4-20 x 3/4")
5	870-0065	1	Nut, Hex (1/4-20)
6	526-0015	2	Washer, Flat (9/32" ID x 9/16" OD x 1/16" Thk)
7	152-0041	1	Washer, Spring Tension
8	152-0198	1	Arm, Control
9	815-0199	2	Screw, Machine - Fillister Head (#10-32 x 5/16")
10	870-0131	2	Nut, Hex with External Tooth Lockwasher (#10-32)
11	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")
12	856-0006	2	Washer, Lock - External Tooth (1/4")
13	862-0001	2	Nut, Hex (1/4-20)
14	152-0086	1	Bracket, Speed Control

OPTION 4 GOVERNOR CONTROL (VARIABLE SPEED) (REMOTE PULL)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	870-0131	1	Nut, Hex with External Tooth Lockwasher (#10-32)
2	150-0147	1	Stud, Speed Adjustment
3	150-0098	1	Spring
4	821-0010	1	Screw, Self-locking - Hex Washer Head (1/4-20 x 1/2")
5	152-0196	1	Spacer, Control Arm
6	152-0195	1	Arm, Control
7	518-0176	1	Clip, Retaining - Cable
8	152-0192	1	Bracket, Throttle Cable
9	150-0621	1	Nut, Acorn - Speed Adjustment



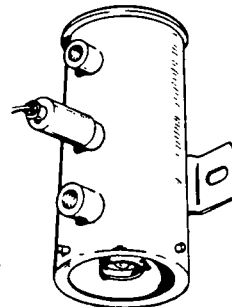
OPTION 5 **GOVERNOR CONTROL (VARIABLE SPEED) (SIDE PULL)**



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	150-1214	1	Spring, Governor
2	518-0176	1	Clip, Cable
3	150-1725	1	Bracket, Cable
4	516-0059	1	Pin, Cotter
5	526-0006	1	Washer, Flat (15/64" ID x 1/2" OD x 3/64" Thk)
6	815-0104	1	Screw, Machine - Fillister Head (#8-32 x 5/16")
7	152-0155	1	Swivel, Cable Holding
8	815-0510	1	Screw, Machine - Hex Slotted Head (#6-32 x .87")
9	150-1398	1	Spring, Idle Setting
10	ARM, GOVERNOR CONTROL		
	150-1345	1	Key 1 and 3
	150-1435	1	Key 2 and 4
11	821-0010	2	Screw, Self-locking - Hex Head (1/4-20 x 1/2")
12	526-0211-0021	2	Washer, Flat (17/64" ID x 3/4" OD x 1/16" Thk)
13	150-1269	1	Bushing, Control Arm

OPTION 6 **FUEL PUMP PARTS (ELECTRIC)**

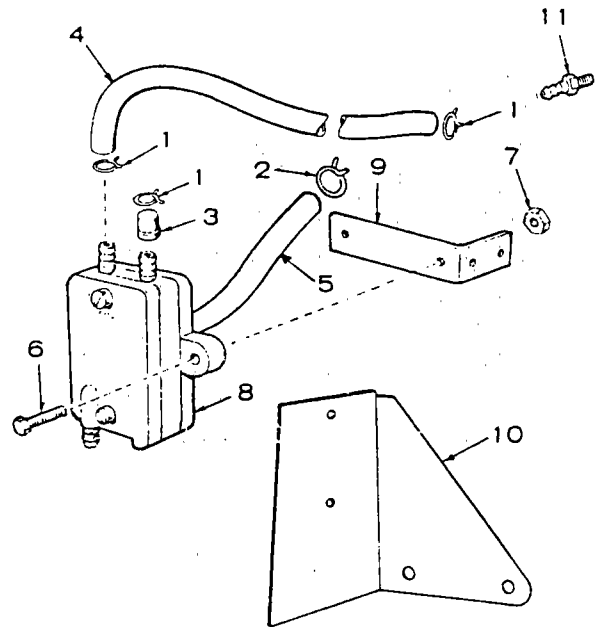
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
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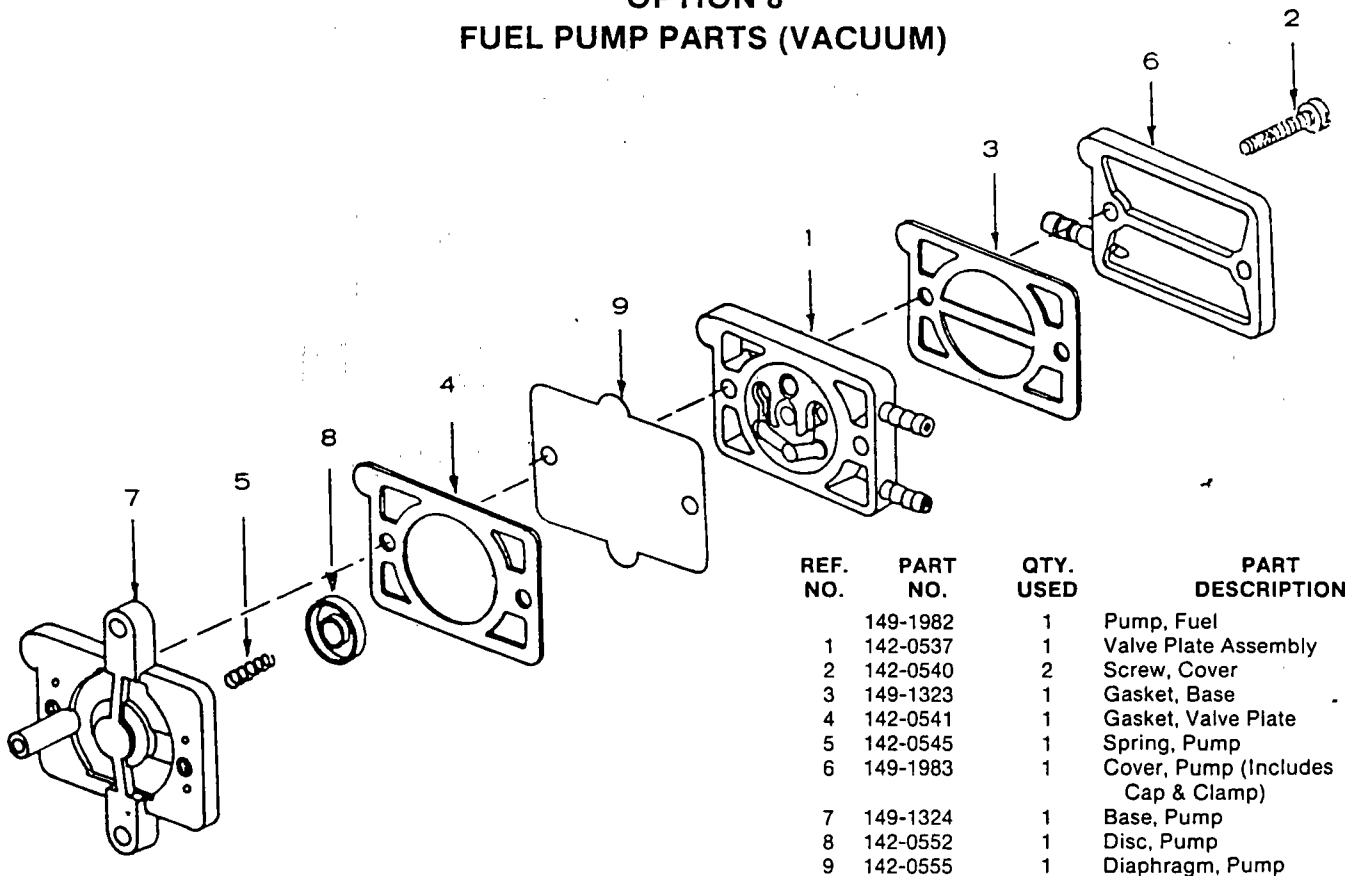
OPTION 7 FUEL PUMP (VACUUM)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	503-0301	6	*Clamp, Loop
2	503-0731	1	Clamp, Loop
3	149-1321	1	*Cap - Inlet Port
4	503-0780	1	Line, Flexible - Fuel (12-1/4") - Pump to Carburetor
5	503-0786	1	Line, Flexible - Vacuum (20-3/4") - Pump to Vacuum Port
6	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")
7	870-0183	2	Nut, Hex - with External Tooth Lockwasher (#6)
8	149-1982	1	Pump, Fuel - Vacuum Pulse (See Separate Group for Components) (Includes Parts Marked *)
9	149-1329	1	Bracket, Mounting - Key 1 & 3
10	149-1364	1	Bracket, Mounting - Key 2 & 4
11	502-0395	1	Tube, Vacuum Port

* - Parts Included in 149-1982 Fuel Pump Kit.

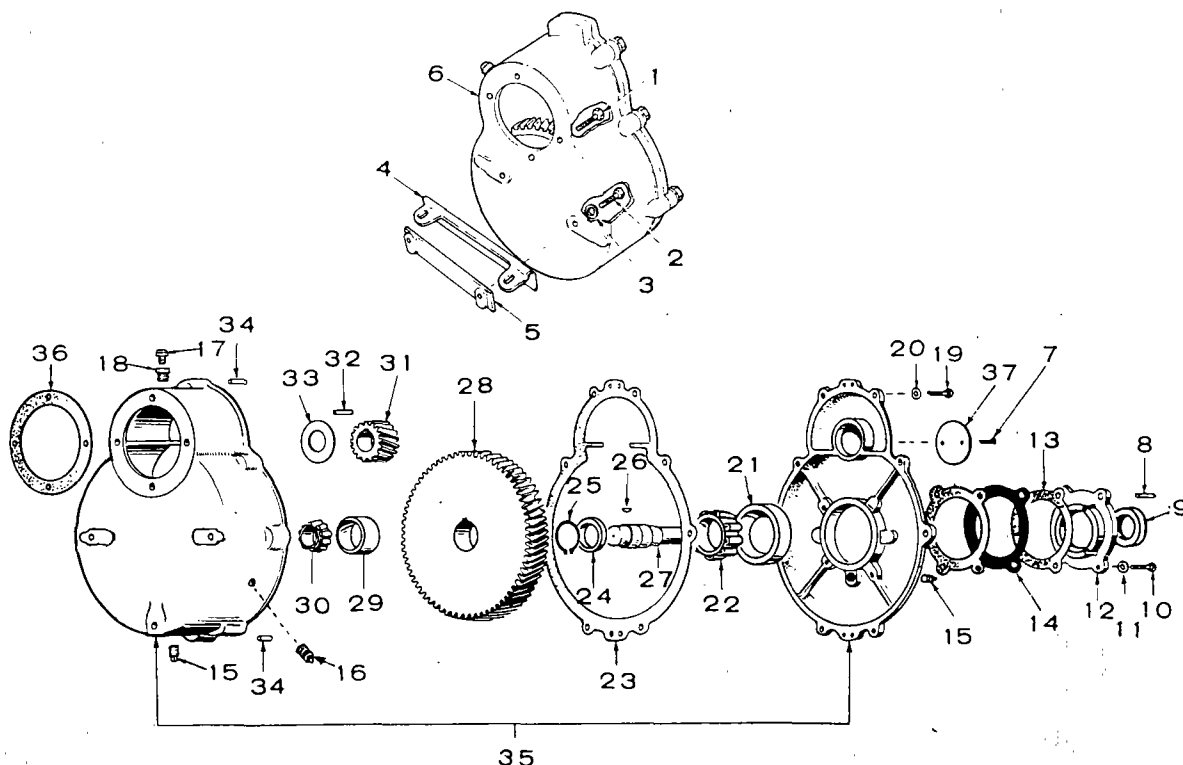


OPTION 8 FUEL PUMP PARTS (VACUUM)



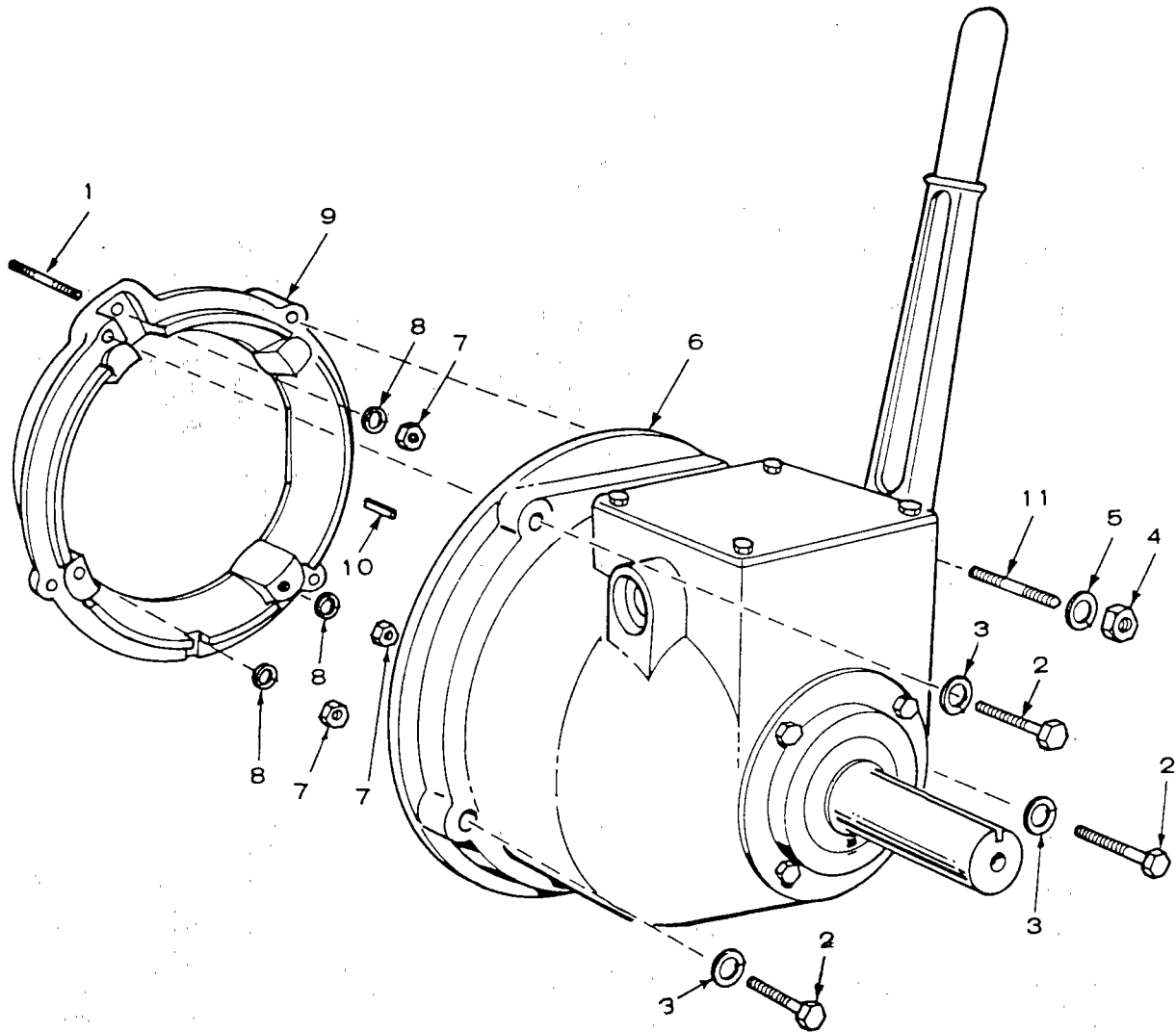
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	149-1982	1	Pump, Fuel
1	142-0537	1	Valve Plate Assembly
2	142-0540	2	Screw, Cover
3	149-1323	1	Gasket, Base
4	142-0541	1	Gasket, Valve Plate
5	142-0545	1	Spring, Pump
6	149-1983	1	Cover, Pump (Includes Cap & Clamp)
7	149-1324	1	Base, Pump
8	142-0552	1	Disc, Pump
9	142-0555	1	Diaphragm, Pump

OPTION 9 REDUCTION GEARBOX



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	805-0009	4	Bolt, Place - Hex Head (5/16-18 x 1")	21	510-0024	1	Race, Outer - Roller Bearing (Cup)
2	800-0027	2	Screw, Cap - Hex Head (5/16-18 x 7/8")	22	510-0023	1	Race, Inner with Rollers (Cone)
3	526-0065	2	Washer, Flat - Copper (5/16")	23	190-0021	1	Gasket
4	190-0297	1	Bracket, Support - Housing	24	190-0202	1	Spacer, Bearing
5	190-0298	1	Nut, Bar - Support Bracket	25	518-0013	1	Ring, Retaining
6	GEAR REDUCTION ASSEMBLY (Includes Following Components)			26	515-0159	1	Key, Woodruff
	190-0445	1	3.3:1 Gear Ratio	27	190-0192	1	Shaft, Power Take-off
	190-0290	1	4:1 Gear Ratio	28	GEAR, HELICAL, DRIVE		
7	815-0019	2	Screw, Drive		190-0224	1	3.3:1 Ratio
8	515-0103	1	Key, Woodruff		190-0447	1	4:1 Ratio
9	509-0016	1	Seal, Oil	29	510-0022	1	Race, Outer - Roller Bearing (Cup)
10	800-0007	4	Screw, Cap - Hex Head (1/4-20 x 1")	30	510-0021	1	Race, Inner with Rollers (Cone)
11	526-0063	4	Washer, Flat - Copper (1/4")	31	GEAR, PINION		
12	190-0016	1	Plate, Retaining - Bearing		190-0225	1	3.3:1 Ratio
13	190-0306	2	Gasket		190-0447	1	4:1 Ratio
14	190-0115	1	Shim Set	32	515-0142	1	Key
15	505-0054	2	Plug, Pipe - 1/4 NPT	33	190-0195	1	Washer, Thrust - Pinion Gear
16	505-0057	2	Plug, Pipe - 1/8 NPT	34	516-0012	2	Pin, Dowel
17	518-0172	1	Vent	35	190-0300	1	Housing (Match Set)
18	505-0007	1	Reducer, Pipe (1/4 NPT to 1/8 NPT)	36	190-0020	1	Gasket
19	800-0028	8	Screw, Cap - Hex Head (5/16-18 x 1")	37	PLATE, INSTRUCTION		
20	526-0065	8	Washer, Flat - Copper (5/16")		99-1266	1	3.3:1 Ratio
					99-1171	1	4:1 Ratio

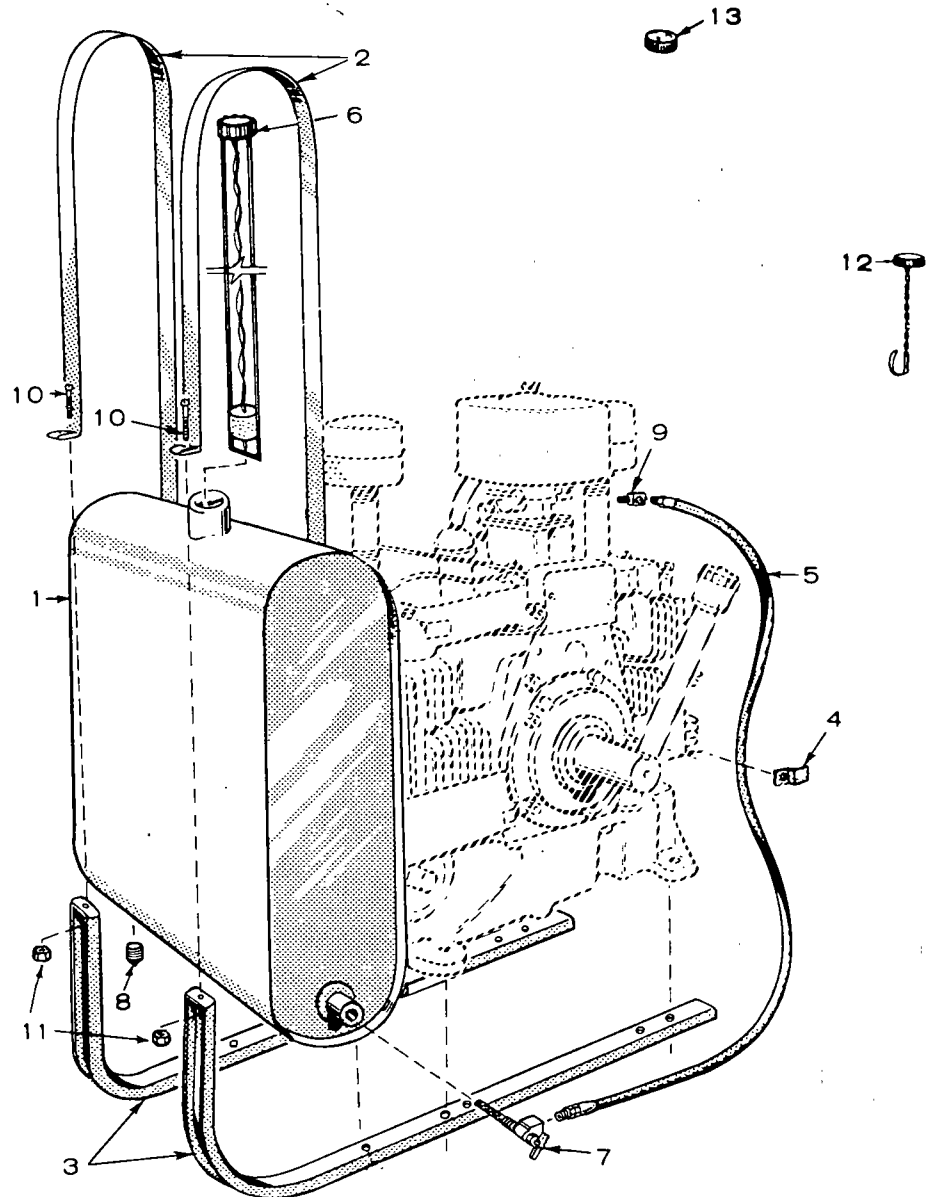
OPTION 10 CLUTCH



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	190-0289	1	Kit, Clutch Assembly
1	520-0739	3	Stud (3/8-24 x 3/8-16 x 3")
2	800-0075	3	Screw, Cap - Hex Head (7/16-14 x 2")
3	850-0055	3	Washer, Lock - Spring (7/16")
4	104-0091	1	Nut, Hex - Hardened (3/8-24)
5	850-0050	1	Washer, Lock - Spring (3/8")
6	190-0288	1	*Clutch Assembly
7	104-0091	3	Nut, Hex - Hardened (3/8-24)
8	850-0050	3	Washer, Lock - Spring (3/8")
9	190-0171	1	Adapter, Clutch
10	515-0041	1	Key, Drive - Special
11	520-0738	1	Stud (3/8-24 x 3/8-16 x 4")

* - For Components, check nameplate and contact
nearest Clutch Dealer.

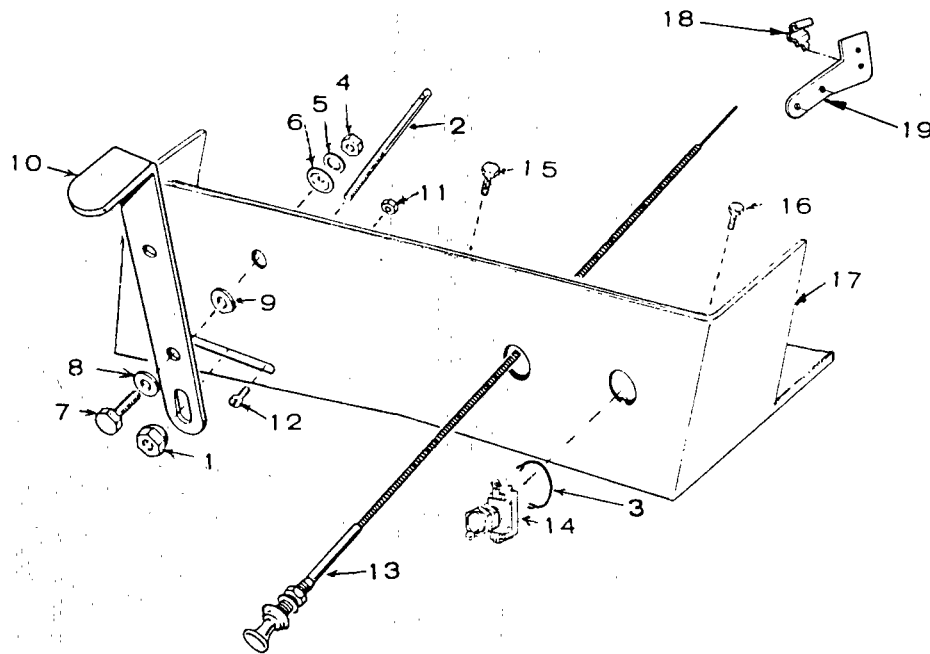
OPTION 11 FUEL TANK (SIDE MOUNTED)



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	159-0984	1	Kit, Fuel Tank with Gauge (Includes Parts Marked *)	7	504-0013	1	†*Valve, Shut-off
	159-0597	1	Kit, Fuel Tank Without Gauge (Includes Parts Marked †)	8	505-0057	1	†*Plug, Tank Drain
1	159-0981	1	†*Tank, Fuel (Less Cap)	9	502-0020	1	†*Elbow, Carburetor Inlet
2	159-0596	2	†*Strap, Fuel Tank	10	813-0108	2	†*Screw, Machine - Round Head (#10-32 x 1-1/2")
3	159-0595	2	†*Bracket, Fuel Tank	11	870-0053	2	†*Nut, Hex (#10-32)
4	134-0599	1	†*Clip, Fuel Line	12	159-0020	1	†*Cap, Fuel Tank (For 2-5/16" Filler Neck) - Late Models
5	501-0008	1	†*Line, Fuel	13	159-0007	1	Cap, Fuel Tank (For 1-3/4" Filler Neck) - Early Models
6	193-0207	1	*Cap and Gauge, Fuel Tank (For 2-5/16" Filler Neck) - Late Models				

† - Included in 159-0597 Fuel Tank Kit.
* - Included in 159-0984 Fuel Tank Kit.

OPTION 12 **CONTROL (ENGINE) - KEY 1,3**

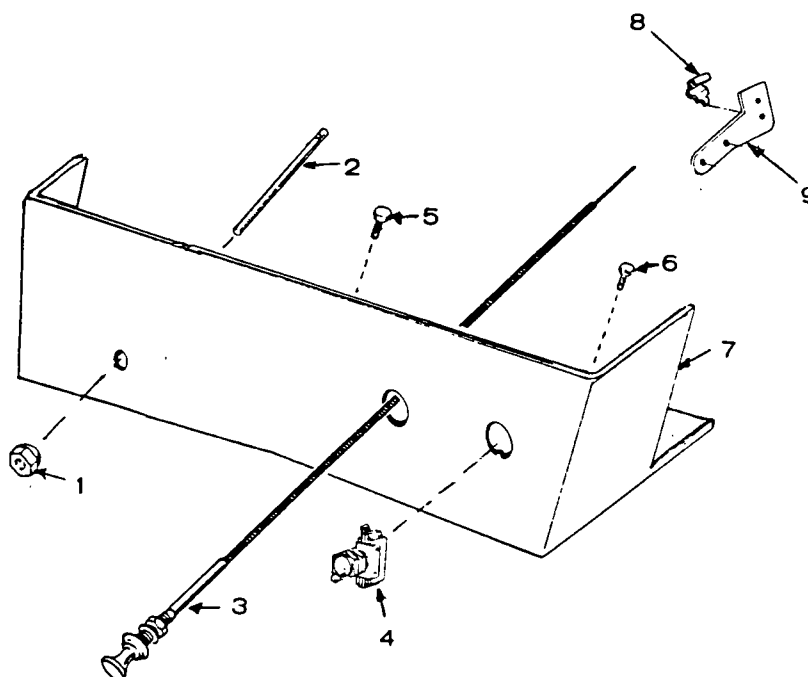


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	150-1419	1	Panel Assembly, Governor Control (Includes Parts Marked *)
1	150-0621	1	Nut, Acorn (#10-32)
2	152-0177	1	Stud, Speed Adjustment
3	332-0592	1	*Jumper, Ground
4	870-0065	1	*Nut, Self-locking, Hex (1/4-20)
5	526-0015	1	*Washer, Flat (9/32" ID x 9/16" OD x 1/16" Thk)
6	152-0041	1	*Washer, Spring Tension
7	800-0005	1	*Screw, Cap - Hex Head (1/4-20 x 3/4")
8	526-0015	1	*Washer, Flat (9/32" ID x 9/16" OD x 1/16" Thk)
9	526-0016	1	*Washer, Flat (17/64" ID x 9/16" OD x 1/32" Thk)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
10	152-0198	1	*Arm, Control
11	815-0199	2	*Screw, Machine - Fillister Head (#10-32 x 5/16")
12	870-0131	2	*Nut, Hex with External Tooth Lockwasher (#10-32)
13	153-0461	1	*Cable Assembly, Choke
14	308-0140	1	*Switch, Toggle
15	821-0009	1	Screw, Self-locking, Hex Head (1/4-20 x 3/8")
16	821-0010	2	Screw, Self-locking, HWH (1/4-20 x 1/2)
17	150-1416	1	*Panel, Control
18	518-0176	1	Clip, Choke Cable Bracket
19	153-0249	1	Bracket, Choke Cable

* - Parts Included in 150-1419 Governor Control Panel Assembly.

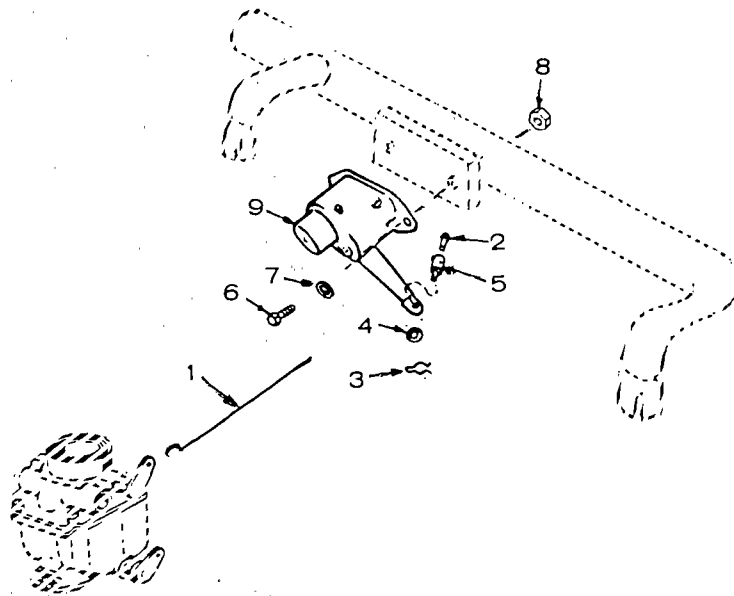
OPTION 13 CONTROL (ENGINE) - KEY 1



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	150-1459	1	Panel Assembly, Governor Control (Includes Parts Marked *)
1	150-0621	1	Nut, Acorn (#10-32)
2	152-0177	1	Stud, Speed Adjustment
3	153-0461	1	*Cable Assembly, Choke
4	308-0295	1	*Switch, Toggle
5	821-0009	1	Screw, Self-locking, Hex Head (1/4-20 x 3/8")
6	821-0010	2	Screw, Self-locking - HWH (1/4-20 x 1/2")
7	150-1458	1	*Panel, Control
8	518-0176	1	Clip, Choke Cable Bracket
9	153-0249	1	Bracket, Choke Cable

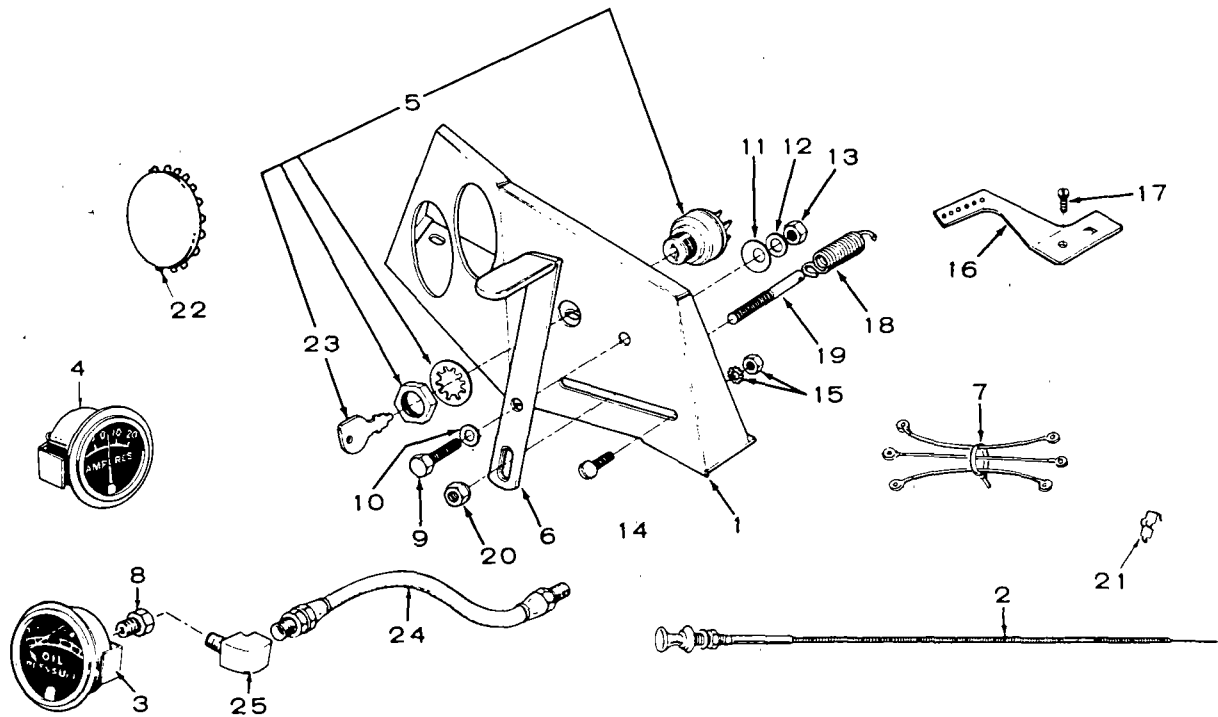
* - Parts Included in 150-1459 Governor Control Panel Assembly

OPTION 14 CHOKE (SISSON)



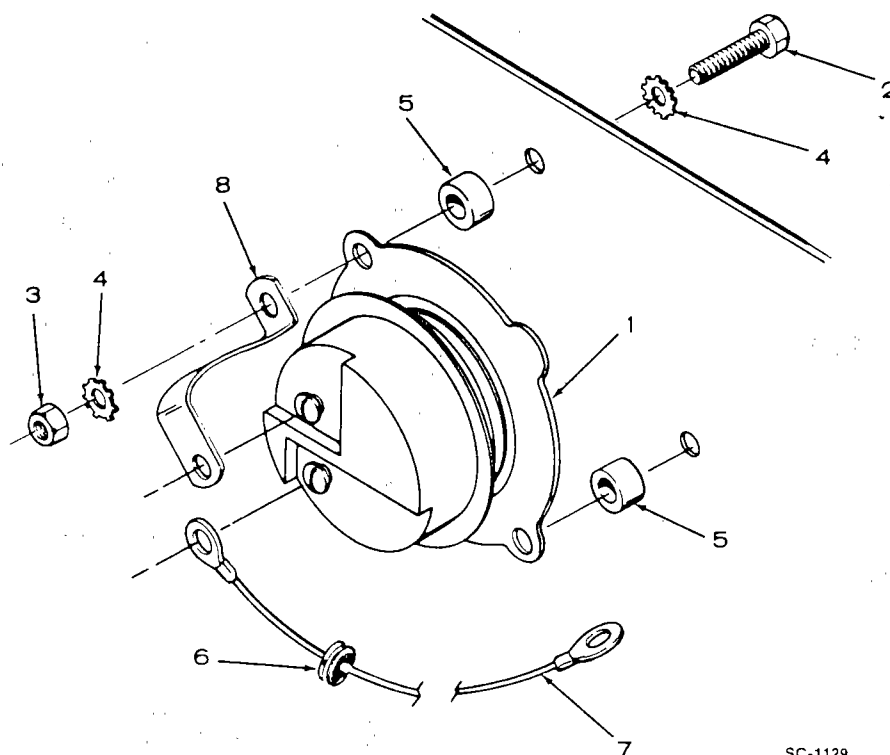
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	153-0478	1	Link - Choke to Carburetor
2	815-0104	1	Screw, Machine - Fillister Head (#8-32 x 5/16")
3	516-0059	1	Pin, Cotter
4	516-0006	1	Washer, Flat (15/64" ID x 1/2" OD x 3/64" Thk)
5	152-0155	1	Swivel
6	800-0003	1	Screw, Cap - Hex Head (1/4-20 x 1/2")
7	850-0040	2	Washer, Lock - Spring (1/4")
8	862-0001	2	Nut, Hex (1/4-20)
9	153-0223	1	Choke, Sisson

OPTION 15 CONTROL (ENGINE)



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	301-5065	1	Panel, Control
2	153-0097	1	Cable, Choke
3	193-0005	1	Gauge, Oil Pressure
4	302-0060	1	Ammeter (20-0-20)
5	308-0385	1	Switch, Ignition
6	152-0224	1	Lever, Throttle Control
7	338-1219	1	Harness, Wiring
8	502-0051	1	Connector, Pipe
9	800-0005	1	Screw, Cap - Hex Head (1/4-20 x 3/4")
10	526-0016	1	Washer, Flat (17/64" ID x 9/16" OD x 1/32")
11	152-0041	1	Washer, Tension
12	526-0015	2	Washer, Flat (9/32" ID x 9/16" OD x 1/16")
13	870-0065	1	Nut, Hex - Self Locking (1/4-20)
14	815-0199	2	Screw, Machine - Fillister Head (#10-32 x 5/16")
15	870-0131	2	Nut, Hex with ET (#10-32)
16	150-1749	1	Extension, Governor Arm
17	815-0181	1	Screw, Tapping - Hex Head with ET (#10-32 x 1/2")
18	150-1214	1	Spring, Governor
19	152-0177	1	Stud, Speed Adjusting
20	150-0621	1	Nut, Speed Adjusting Stud
21	518-0176	1	Clip, Choke Cable
22	517-0009	As Req.	Plug, Dot Button
23	308-0490	1	Key, Ignition Switch
24	501-0009	1	Line, Oil - Flexible (36" Lg)
25	502-0065	1	Elbow, Street (45°)

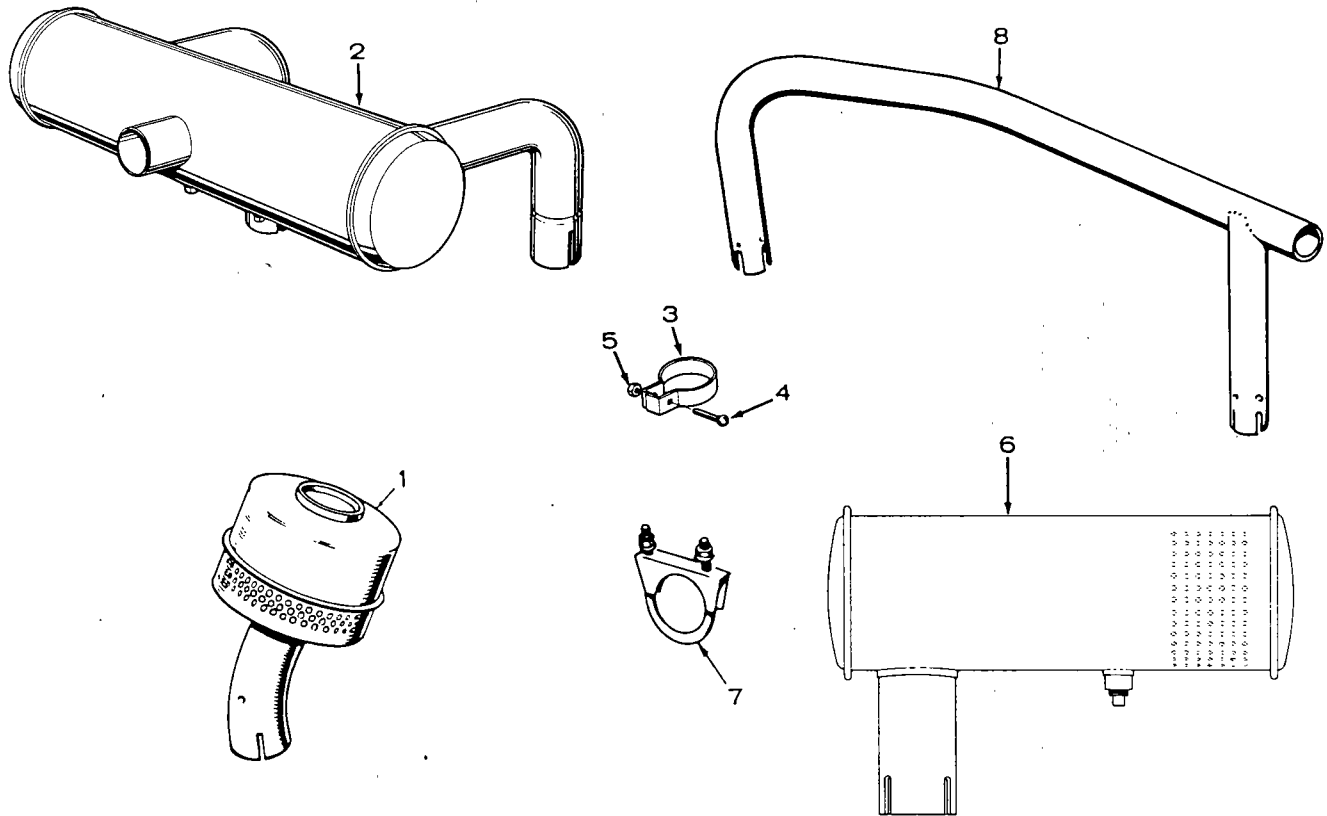
OPTION 16 **HIGH AIR TEMPERATURE SWITCH**



SC-1129

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	309-0077	1	Switch, High Air Temperature
2	815-0472	2	Screw, Machine - Hex Head (#6-32 x 3/8")
3	860-0005	2	Nut, Hex (#6-32)
4	856-0001	4	Washer, Lock - EIT (#6)
5	508-0056	2	Washer, Fiber
6	508-0031	1	Grommet, Rubber
7	336-2963	1	Lead, Wire
8	160-0144	1	Strap, Ground

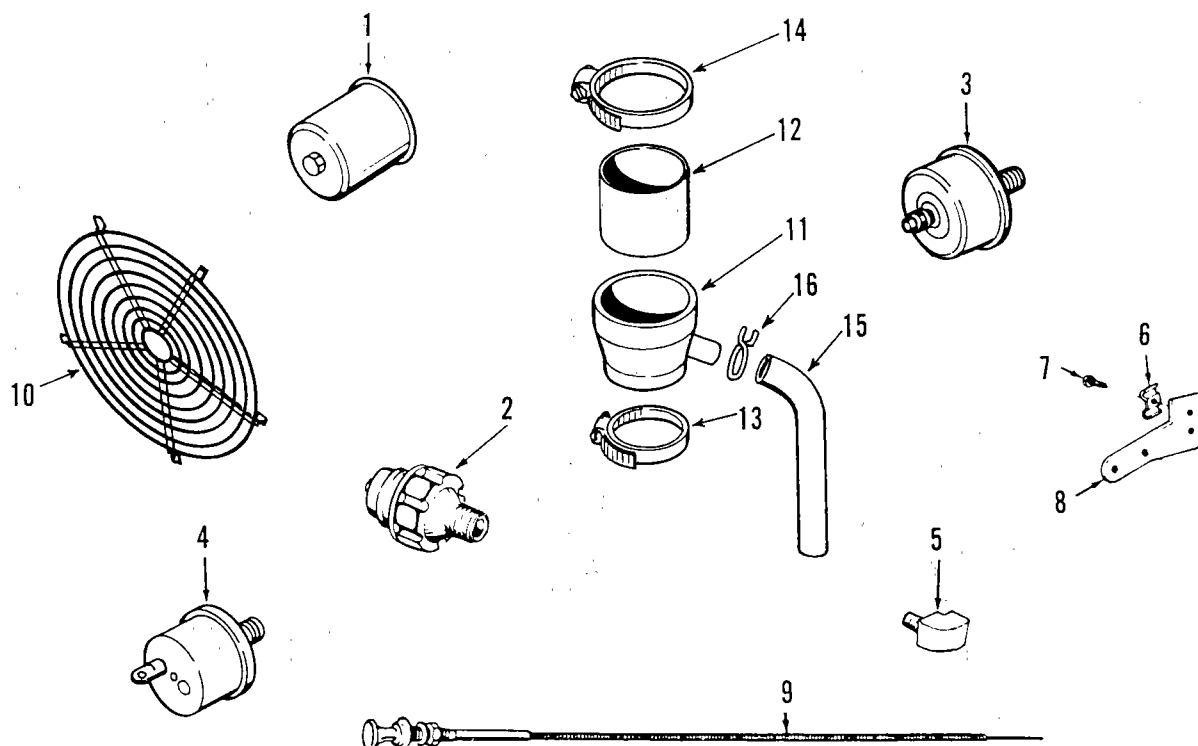
MISCELLANEOUS EXHAUST OPTIONS



NOTE: Various exhaust options are used on NHA, NHAV, NHB and NHBV industrial engines. Select according to illustration.

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	155-1216	2	Muffler, Exhaust
2	155-1686	1	Muffler, Exhaust
3	155-1219	2	Clamp, Muffler
4	805-0019	2	Screw, Cap - Hex Head (3/8-16 x 1")
5	862-0003	2	Nut, Hex (3/8-16)
6	MUFFLER, EXHAUST - RAYGUN		
	155-1698	2	With Spark Arrestor
	155-1660	2	Without Spark Arrestor
7	155-1239	2	Clamp, Muffler
8	MANIFOLD, EXHAUST - CROSSOVER		
	154-1609	1	Left Front Outlet
	154-1610	1	Left Rear Outlet
	154-1609	1	Right Rear Outlet
	154-1610	1	Right Front Outlet

MISCELLANEOUS OPTIONS

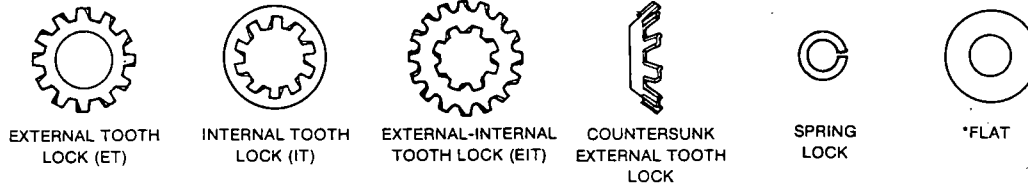


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	122-0406	1	Filter, Oil (With Hex Nut)
2	309-0237	1	Switch, Low Oil Pressure
3	193-0108	1	Sender, Oil Pressure (Engines with Electric Gauge)
4	309-0064	1	Switch, Oil Pressure (Engines with Oil Pressure Warning Light)
5	502-0053	1	Elbow, Street (45°)
6	153-0514	1	Clamp, Choke Cable
7	815-0359	1	Screw, Hex Head (10-32 x 1 1/8")
8	153-0515	1	Bracket, Choke Cable
9	153-0461	1	Cable Assembly, Choke
10	134-2447	1	Grille, Blower Housing (Stationary)
11	145-0456	1	Adapter Assembly, Air Inlet - Remote Air Cleaner
12	123-1256	1	Connector, Adapter Assembly
13	503-0280	1	Clamp, Hose - Adapter Assembly (1-3/4")
14	503-0311	1	Clamp, Hose - Adapter Assembly (2-1/8")
15	503-0692	1	Hose, Breather (7/16 ID x 4")
16	503-0170	2	Clamp, Breather Hose (5/8")
17	159-1150	1	TANK, FUEL - plastic (3.5 GAL. Cap)

HARDWARE IDENTIFICATION

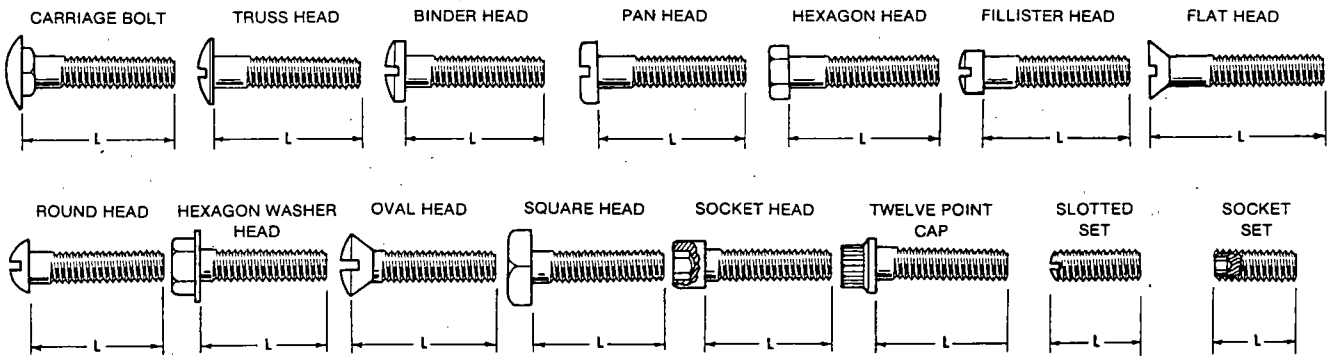
Illustrated hardware items are only for identification purposes. All hardware items listed throughout this parts catalog are steel SAE grade five (5) or lower (zinc plated with clear chromate dip) unless parts description indicates differently. All dimensions are in inches.

WASHER TYPES



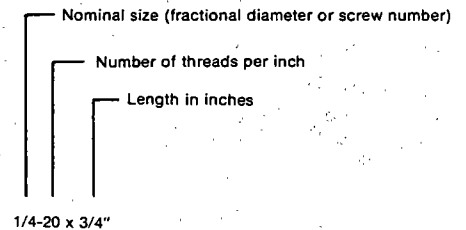
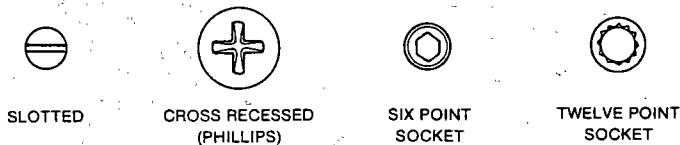
* - Flat washer dimensions given are: Inside Diameter (ID), Outside Diameter (OD) and Thickness (Thk).

BOLT AND SCREW TYPES



L - Measure length between these points.

INTERNAL DRIVE TYPES



NUT TYPES



Onan Corporation
A Subsidiary of
McGraw-Edison Company
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Minneapolis, MN 55432

612 574-5000
Telex 29 0476 (U.S.)
Telex 29 0856 (outside U.S.)
TWX 910 576-2833
Cable ONAN

SPECIAL PARTS LIST FOR MODEL NHA-M8

SPEC 1A

FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO.

OPTIONAL GROUPS IN CATALOG ARE LISTED BY GROUP NO. BELOW WHEN USED.

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Standard Model

SPECIAL PARTS LIST FOR MODEL NHAV-MS SPEC .1A
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 2
OPTIONAL GROUPS IN CATALOG ARE LISTED BY GROUP NO. BELOW WHEN USED.

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Standard Model

SPECIAL PARTS LIST FOR MODEL NHBV-MS SPEC 1A
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 4
OPTIONAL GROUPS IN CATALOG ARE LISTED BY GROUP NO. BELOW WHEN USED.

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Standard Model					
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SPECIAL PARTS LIST FOR MODEL NHA-MS SPEC 1B
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 1
OPTIONAL GROUPS IN CATALOG ARE LISTED BY GROUP NO. BELOW WHEN USED.

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Standard Model

SPECIAL PARTS LIST FOR MODEL NHAV-MS SPEC 1B
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 2
OPTIONAL GROUPS IN CATALOG ARE LISTED BY GROUP NO. BELOW WHEN USED.

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Standard Model

SPECIAL PARTS LIST FOR MODEL NHB-MS SPEC 1B
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 3
OPTIONAL GROUPS IN CATALOG ARE LISTED BY GROUP NO. BELOW WHEN USED.

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Standard Model

SPECIAL PARTS LIST FOR MODEL NHBV-MS SPEC 1B
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 4
OPTIONAL GROUPS IN CATALOG ARE LISTED BY GROUP NO. BELOW WHEN USED.

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Standard Model

SPECIAL PARTS LIST FOR MODEL NHA-MS SPEC 1C
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 1
OPTIONAL GROUPS IN CATALOG ARE LISTED BY GROUP NO. BELOW WHEN USED.

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Standard Model

SPECIAL PARTS LIST FOR MODEL NHAV-MS SPEC 1C
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 2
OPTIONAL GROUPS IN CATALOG ARE LISTED BY GROUP NO. BELOW WHEN USED.

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Standard Model					
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SPECIAL PARTS LIST FOR MODEL NHB-MS SPEC 1C
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 3
OPTIONAL GROUPS IN CATALOG ARE LISTED BY GROUP NO. BELOW WHEN USED.

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Standard Model

SPECIAL PARTS LIST FOR MODEL NHBV-MS

SPEC 1C

FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 4

OPTIONAL GROUPS IN CATALOG ARE LISTED BY GROUP NO. BELOW WHEN USED.

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Standard Model

SPECIAL PARTS LIST FOR MODEL

NHA-MF

SPEC

1967C

FOR STANDARD PARTS REFER TO CATALOG

940-0403

KEY NO. 1

(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)

WIRING DIAGRAM NO.

622-0396

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Option - 10

Glutch

104-0866

1

Crankshaft

NHB-MF

SPEC

1967C

FOR STANDARD PARTS REFER TO CATALOG

940-0403

KEY NO. 1

(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)

WIRING DIAGRAM NO.

W.D. 622-0396

SPECIAL PARTS LIST FOR MODEL NHB-MS SPEC 2270A
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 1
(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)
WIRING DIAGRAM NO. W.D. 622-0339

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
OPTION -	2	Flywheel Alternator - 15 Amp			

SPECIAL PARTS LIST FOR MODEL NHA-MS SPEC 2270B
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 1
(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)
WIRING DIAGRAM NO. 622-0339

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Option - 2		Flywheel Alternator - 15 Amp			
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SPECIAL PARTS LIST FOR MODEL NHAV-MS SPEC 2270B

2270B

FOR STANDARD PARTS REFER TO **CATALOG** 940-0403

KEY NO. 2

(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)

WIRING DIAGRAM NO. 622-0339

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
Option - 2		Flywheel Alternator - 15 Amp			
Not Furnished by Onan:					
Fuel Pump					

SPECIAL PARTS LIST FOR MODEL NHB-MS SPEC 2270B
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 1
(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)
WIRING DIAGRAM NO. W.D. 622-0339

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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OPTION - 2		Flywheel Alternator - 15 Amp			
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SPECIAL PARTS LIST FOR MODEL NHB-MS SPEC 2270C
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 1
(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)
WIRING DIAGRAM NO. W.D. 622-0339

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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OPTION - 2		Flywheel Alternator - 15 Amp			
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SPECIAL PARTS LIST FOR MODEL NHA-MS SPEC 2313A
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 1
(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)

WIRING DIAGRAM NO. 622-0339

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Option - 2		Flywheel Alternator - 15 Amp			
Option - 3		Governor Control, Variable Speed			

SPECIAL PARTS LIST FOR MODEL

NHB-MS

SPEC

2313A

FOR STANDARD PARTS REFER TO CATALOG

940-0403

KEY NO.

1

(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)

WIRING DIAGRAM NO.

W.D. 622-0339

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
OPTION -	2	Flywheel Alternator - 15 Amp			
OPTION -	3	Governor Control - Variable Speed, Engine Mounted			
152-0177	1	Stud, Adjusting - Gov. (3" Lg)			

SPECIAL PARTS LIST FOR MODEL NHA-MS SPEC 2410B
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 1
(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)

WIRING DIAGRAM NO. 622-0339

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
Option - 2		Flywheel Alternator - 15 Amp			
Option - 10		Clutch			
104-0866	1	Crankshaft			

SPECIAL PARTS LIST FOR MODEL NHA-MS

SPEC

2489A

FOR STANDARD PARTS REFER TO CATALOG 940-0403KEY NO. 1

(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)

WIRING DIAGRAM NO. 622-0339

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Option - 2		Flywheel Alternator - 15 Amp			
Option - 5		Governor Control, Side Pull			

103-0396	1	Gearcase Assembly			
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SPECIAL PARTS LIST FOR MODEL NHB-MS SPEC 2489A
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 1
(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)
WIRING DIAGRAM NO. W.D. 622-0339

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
OPTION -	2	Flywheel Alternator - 15 Amp			
OPTION -	5	Governor Control - Side Pull			
134-2384		Screen, Flywheel			
134-2633		Housing, Cylinder Air - LH			
134-2634		Housing, Cylinder Air - RH			
134-2646		Support, Baffle - LH			

SPECIAL PARTS LIST FOR MODEL

NHB-MS

SPEC

2490A

FOR STANDARD PARTS REFER TO CATALOG 940-0403

KEY NO. 1

(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)

WIRING DIAGRAM NO. W.D. 622-0339

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
OPTION -	2	Flywheel Alternator - 15 Amp			
OPTION -	5	Governor Control - Side Pull			
101-0430	1	Rear Bearing Plate - Less Brg.			
103-0396	1	Gearcase Assy.			
104-0860	1	Crankshaft			
110-2275	1	Cylinder Block Assy. (Includes Bearing and Rear Brg. Plate)			
134-2384	1	Screen, Flywheel			
134-2633	1	Housing, Cylinder Air - LH			
134-2634	1	Housing, Cylinder Air - RH			
134-2646	1	Support, Baffle - LH			

SPECIAL PARTS LIST FOR MODEL

NHA-MS

SPEC

2519A

FOR STANDARD PARTS REFER TO CATALOG

940-0403

KEY NO. 1

(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)

WIRING DIAGRAM NO.

622-0339

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Option - 2		Flywheel Alternator - 15 Amp			
Option - 5		Governor Control, Side Pull			

101-0430	1	Rear Bearing, Plate (Less Bearing)			
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103-0396	1	Gearcase Assembly			
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104-0847	1	Crankshaft			
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110-2275	1	Cylinder Block Assembly (Includes Rear Bearing Plate)			
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134-2384	1	Guard Screen, Flywheel			
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134-2633	1	Air Housing - Left Side			
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134-2634	1	Air Housing - Right Side			
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134-2653	1	Flywheel			
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SPECIAL PARTS LIST FOR MODEL NHB-MS SPEC 2519A
 FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 1
 (PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)
 WIRING DIAGRAM NO. W.D. 622-0339

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
OPTION -	2	Flywheel Alternator - 15 Amp			
OPTION -	5	Governor Control - Side Pull			
101-0430	1	Rear Bearing Plate - Less Brg.			
103-0396	1	Gearcase Assy.			
104-0862	1	Crankshaft			
110-2275	1	Cylinder Block Assy. (Includes Bearings and Less Bearing Plate)			
134-2384	1	Screen, Flywheel			
134-2633	1	Housing, Cylinder Air - LH			
134-2634	1	Housing, Cylinder Air - RH			
134-2643	1	Support, Baffle - LH			

SPECIAL PARTS LIST FOR MODEL NHBV-MS SPEC 2532C
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 2
(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)
WIRING DIAGRAM NO. W.D. 622-0396

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
150-1214	1	Spring - Governor			
309-0237	1	Switch, Pressure - Low Oil			
336-1316	1	Lead, Electrical - LOPKO to Coil			
502-0053	1	Elbow, Pipe - LOPKO Mtg.			

SPECIAL PARTS LIST FOR MODEL NHA-MS SPEC 2569A
 FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 182
 (PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)
 WIRING DIAGRAM NO. 622-0270

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
Vacu-Flo Cooling					
102-0675	1	Oil Base			
103-0469	1	Gearcase Assembly			
104-0740	1	Flywheel with Ring Gear			
110-1905	1	Cylinder Head - RH			
110-1906	1	Cylinder Head - LH			
122-0345	1	Tube, Oil Drain			
134-2119	1	Blower Housing			
134-2130	1	Blower Wheel			
134-2141	1	Cylinder Air Housing - LH			
134-2143	1	Cylinder Air Housing - RH			
134-2487	1	Baffle, Air - LH			
134-2717	1	Scroll, Air			
145-0450	1	Inlet Assembly, Carburetor			
167-0241	2	Spark Plug			
226-1210	1	Lead, Electrical - LOPKO			
309-0064	1	Switch, Oil Pressure - LOPKO			
502-0020	1	Elbow, Pipe - Oil Switch			
503-0009	1	Button, Plug - Scroll			
517-0035	1	Button, Plug, Housing			
520-0715	8	Stud (3/8-24 x 3/8-16 x 2-3/16")			
520-0716	4	Stud (3/8-24 x 3/8-16 x 2-1/2")			

Not Furnished by Onan:

Muffler
 Fuel Pump
 Air Cleaner

SPECIAL PARTS LIST FOR MODEL

NHA-MS

SPEC

2570A

FOR STANDARD PARTS REFER TO CATALOG 940-0403

KEY NO. 1

(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)

WIRING DIAGRAM NO. 622-0341

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Option - 2		Flywheel Alternator - 15 Amp			
Option - 12		Control Panel - Variable Speed			
134-2531	1	Housing, Blower - w/Grille			

SPECIAL PARTS LIST FOR MODEL

NHB-MS

SPEC

2570A

FOR STANDARD PARTS REFER TO CATALOG 940-0403

KEY NO. 1

(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)

WIRING DIAGRAM NO. W.D. 622-0341

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
OPTION - 2		Flywheel Alternator - 15 Amp			
OPTION - 12		Governor Control Panel - Variable Speed			
134-2531	1	Housing, Blower-W/ Grille			

SPECIAL PARTS LIST FOR MODEL NHA-MS SPEC 2570B
FOR STANDARD PARTS REFER TO CATALOG 940-0403 KEY NO. 1
(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)
WIRING DIAGRAM NO. 622-0341

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
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Option - 2		Flywheel Alternator - 15 Amp			
Option - 12		Control Panel - Variable Speed			

134-2810	1	Housing, Blower - w/Grille			
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SPECIAL PARTS LIST FOR MODEL

NHB-MS

SPEC

2570B

FOR STANDARD PARTS REFER TO CATALOG

940-0403

KEY NO.

1

(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)

WIRING DIAGRAM NO.

W.D. 622-0341

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
OPTION - 2		Flywheel Alternator - 15 Amp.			
OPTION - 12		Governor Control Panel -			
		Variable Speed			
134-2810	1	Housing, Blower-W/Grille			